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Practitioner's Docket No. 32887/251705

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : WEAVER, Max Allen et al.  
Application No. : 09/751,766  
Filed : December 29, 2000  
For : Method For Preparing Light-Absorbing  
Polymeric Compositions  
Examiner : Tucker, Philip C.  
Group Art Unit : 1712

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Assistant Commissioner for Patents  
Washington, DC 20231

OFFICE ACTION RESPONSE

Sir:

This Office Action Response is filed in response to the Office Action mailed January 15, 2003.

In the claims below, please amend claims 23, 35-39, 42, 52, 53, 55 and 57.

Please cancel claims 27 and 43-51 without prejudice to or disclaimer of the subject matter contained therein.

Please enter new claims 109-129.

The fee of \$180.00 for ten additional claims is included with this Office Action Response.

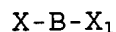
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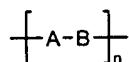
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1. (Original) A method comprising reacting
- a) at least one diacidic monomer, comprising about 1 to 100 mole % of at least one light-absorbing monomer having a light absorption maximum between about 300 nm and about 1200 nm and 99-0 mole % of a non-light absorbing monomer which does not absorb significant light at wavelengths above 300 nm or has a light absorption maximum below 300 nm, with
- b) an organic compound having the formula



wherein B is a divalent organic radical selected from the group consisting of C<sub>2</sub>-C<sub>12</sub> alkylene, C<sub>3</sub>-C<sub>8</sub> cycloalkylene, C<sub>1</sub>-C<sub>4</sub> alkylene-C<sub>3</sub>-C<sub>8</sub>-cycloalkylene, C<sub>1</sub>-C<sub>4</sub> alkylene, C<sub>1</sub>-C<sub>4</sub> alkylene-arylene, C<sub>1</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub>-alkylene-L-arylene-L-C<sub>2</sub>-C<sub>4</sub> alkylene and C<sub>2</sub>-C<sub>4</sub> alkylene-(L-C<sub>2</sub>-C<sub>4</sub> alkylene)<sub>1-4</sub>, wherein L is a linking group selected from the group consisting of -O-, -S-, -SO<sub>2</sub>-, -NH-, -N(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(aryl)-, -N(SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(SO<sub>2</sub>aryl)-, -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)- and combinations thereof; X and X<sub>1</sub> are reactive groups and are independently selected from the group consisting of bromine, iodine and R-SO<sub>2</sub>O; wherein R is selected from the group consisting of C<sub>1</sub>-C<sub>6</sub> alkyl; C<sub>1</sub>-C<sub>6</sub> alkyl substituted with chlorine, fluorine, C<sub>1</sub>-C<sub>6</sub> alkoxy, aryl, aryloxy, arylthio or C<sub>3</sub>-C<sub>8</sub> cycloalkyl; C<sub>3</sub>-C<sub>8</sub> cycloalkyl or aryl,

wherein said reaction is carried out in a solvent in the presence of a base to form a light absorbing polymeric composition having the formula



wherein B is as defined above, n is at least 2 and A comprises the residue of said diacidic monomer.

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H-Y-H

wherein H represents an acidic hydrogen atom; Y is a divalent light-absorbing moiety selected from the group consisting of chromophoric classes of azo, disazo, triazo, bis-azo, methine, arylidene, polymethine, azo-methine, azamethine, anthraquinone, anthrapyridone (3H-dibenz[f,i,j]isoquinoline-2,7-dione, nitroarylphenothiazine (14H-naphth[2,3-a]phenothiazole, anthrapyridine (7H-dibenz[2,3-a]phenothiazine-8,13-dione, benzanthrone (7H(de)anthracene-7-one), anthrapyrazole, anthraisothiazole, benzo[e]perimidine (14H-naphth[2,3-a]phenothiazine-8,13-dione, triphenodioxazine, thioxanthene-9-one, quinophthalone, dihydroquinoxaline [2,3-b]phenazine, naphthalocyanine, metal naphthalocyanine, coumarin (2H-1-benzopyran-2-one), coumarin croconium compounds, nickel dithiolenes, squarylium compounds, imine (2H-1-benzopyran-2-imine), perinone, benzodifuran, phthaloylacridone, phthaloylphenoxazine (14H-naphtho[2,3-c]a)phenoxazine-8,13-dione, anthraquinonethioxanthene, acridine, acridine-5,8,14-trione), phthaloylphenoxazine (13H-naphtho[2,3-c]a)thioxanthene-5,8,13-trione, anthraquinone, xanthene, 2,5-diazine, cyanine, oxazine, 1,4 and 1,5-naphthoquinones, 3-diarylamino-terephthalic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-naphthalene-1,4,5,8-tetracarboxylic acid diimide, 3,4,9,10-perylenetetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxopyrroline, arylisoidindole, hydroxybenzophenone, benzotriazole, naphthotriazole, 3-diminoisoidindole, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and 3-imine, phthalimides, 2,5-diarylthiophenes, 2,5-diaryl-1,3,4-oxadiazoles, diarylethenes, 2,5-diarylfurans, 2,5-diaryl-1,3,4-thiadiazoles, triazines, 2,5-diaryl-2-pyrazolines, 2-arylbenzofurans, 2,6-thiophenes, 1,3-diphenyl-2-pyrazolines, 2-arylbenzofurans, 2,6-

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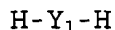
diphenylbenzofurans, quinolines, quinoxalines, 3,4-diarylfuanones, distyrylarenes, benzanthrones, polyarenes and naphthalimides.

3. (Original) The method of claim 2 wherein the hydrogen atoms of said formula H-Y-H are independently bonded to an oxygen, sulfur, or nitrogen atom which is a part of the light absorbing moiety Y and which in combination provides two acidic functional groups.

4. (Original) The method of claim 3 wherein said acidic functional groups have pKa values of from about 1.5 to about 12.

C' 5. (Original) The method of claim 3 wherein said acidic functional groups are independently selected from the group consisting of -CO<sub>2</sub>H, -SH, -OH attached to an aromatic ring, -CONHCO-, -SO<sub>2</sub>-NH-CO-, -SO<sub>2</sub>-NH-SO<sub>2</sub>-, 1(H)-1,2,4-triazol-3-yl-, imidazolyl, benzimidazolyl, pyrazolyl, -SO<sub>2</sub>H attached to aromatic ring, -NHSO<sub>2</sub>R<sub>5</sub> and -SO<sub>2</sub>NHR<sub>5</sub>, wherein R<sub>5</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl and C<sub>1</sub>-C<sub>6</sub> alkyl substituted with at least one group selected from the group consisting of C<sub>1</sub>-C<sub>6</sub> alkoxy, aryl, aryloxy, arylthio and C<sub>3</sub>-C<sub>8</sub> cycloalkyl.

6. (Original) The method of claim 1 wherein said non light-absorbing monomers have the formula

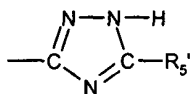


wherein H represents an acidic hydrogen atom; Y<sub>1</sub> is a divalent moiety selected from the group consisting of -O<sub>2</sub>C-R<sub>1</sub>-CO<sub>2</sub>- and -O-R<sub>2</sub>-O- and -O<sub>2</sub>C-R<sub>3</sub>-O-, wherein R<sub>1</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>12</sub> alkylene, 1-4-cyclohexylene, arylene, arylene-O-arylene, arylene-SO<sub>2</sub>-arylene, arylene-S-arylene, and C<sub>1</sub>-C<sub>4</sub> alkylene-O- C<sub>1</sub>-C<sub>4</sub> alkylene; wherein R<sub>2</sub> is selected from the group consisting of arylene, arylene-O-arylene, arylene-S-arylene, arylene-SO<sub>2</sub>-arylene, phenylene-phenylene, and phenylene-C(R<sub>4</sub>)<sub>2</sub>-phenylene; wherein R<sub>4</sub> is selected from the group consisting of hydrogen and C<sub>1</sub>-C<sub>4</sub> alkyl; wherein R<sub>3</sub> is selected from arylene.

7. (Original) The method of claim 1 wherein said polymeric composition is linear.

8. (Original) The method of claim 1 wherein said diacidic monomers have  $pK_a$  values of about 12 or below.

9. (Original) The method of claim 2 wherein H-Y-H includes a moiety selected from the group consisting of carboxy groups attached to an aromatic ring carbon or aliphatic carbon, hydroxy groups attached to an unsubstituted or substituted phenyl or naphthyl radical, -CO-NHCO- groups attached to an aromatic ring to provide an imide and 1(H)-1,2,4-triazol-3-yl group having the formula



wherein  $R_5'$  is selected from the group consisting of hydrogen,  $C_1-C_6$  alkyl and aryl.

10. (Original) The method of claim 1 where n is between about 2 and about 25.

11. (Original) The method of claim 1 wherein n is between about 3 and about 15.

12. (Original) The method of claim 1 wherein said base is selected from the group consisting of alkali metal carbonates, alkali metal bicarbonates and tertiary amines, aromatic nitrogen bases, bicyclic nitrogen containing bases having non-hindered electron pairs and mixtures thereof.

13. (Previously Amended) The method of claim 12 wherein said base is selected from the group consisting of triethylamine, tri-n-butylamine, N-methylpiperidine, N,N'-dimethylpiperazine, N-

methyldmorpholine and N,N,N',N'-tetramethylethylenediamine, pyridines, picolines, quinolines, isoquinolines, N-alkylpyrroles, N-alkylimidazoles, 1,8-diazabicyclo[5,4,0]undec-7-ene (DBU), 1,5-diazabicyclo[4,3,0]non-5-ene (DBN) and 1,4-diazadicyclo[2,2,2]octane and mixtures thereof.

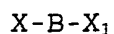
14. (Original) The method of claim 1 wherein said solvent is one or more aprotic polar solvents.

15. (Original) The method of claim 1 wherein said solvent is selected from the group consisting of N,N-dimethylacetamide, N,N-dimethylformamide, N-methyl-2-pyrrolidone, N-methyl-N-phenyl formamide, dimethylsulfoxide, aliphatic nitriles, sulfolane, hexamethyl phosphoramidate, water, alcohols, ketones pyridine and ether-alcohols and mixtures thereof.

C 16. (Original) The method of claim 15 wherein said solvent is selected from the group consisting of N,N-dimethylacetamide, N,N-dimethylformamide, N-methyl-2-pyrrolidone, N-methyl-N-phenyl formamide, dimethylsulfoxide, aliphatic nitriles, sulfolane and hexamethyl phosphoramidate and mixtures thereof.

17. (Original) The method of claim 1 wherein said reacting is conducted at a temperature between about 75°C and about 125°C.

18. (Original) The method of claim 1 wherein said organic compound having the formula



is selected from the group consisting of disulfonate compounds where X and X<sub>1</sub> are both a sulfonate ester of the formula-OSO<sub>2</sub>R, wherein R is selected from C<sub>1</sub>-C<sub>4</sub> alkyl, phenyl or p-methylphenyl and wherein B is selected from C<sub>2</sub>-C<sub>6</sub> alkylene, -CH<sub>2</sub>-1,4-cyclohexylene-CH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>(O CH<sub>2</sub>CH<sub>2</sub>)<sub>1-4</sub> and -CH<sub>2</sub>CH<sub>2</sub>O-1,4-phenylene-O-CH<sub>2</sub>CH<sub>2</sub>-.

19. (Previously Amended) The method of claim 18 wherein said B moiety of the organic compound having the formula X-B-X<sub>1</sub> is selected from the group consisting of -CH<sub>2</sub>CH<sub>2</sub>-, -CH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>2</sub>-, -CH<sub>2</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>6</sub>-, -CH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>- and -CH<sub>2</sub>-1,4-cyclohexylene-CH<sub>2</sub>-.

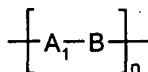
20. (Original) The method of claim 1 wherein said organic compound having the formula X-B-X<sub>1</sub> is selected from the group consisting of 1,2-ethandiol, dimethanesulfonate; 1,2-ethanediol bis(4-methylbenzenesulfonate); 1,4 butanediol, dimethane sulfonate; 1,6-hexanediol, dimethanesulfonate; 1,3-propanediol, 2,2-dimethyl-, dimethanesulfonate; 1,4-cyclohexanedimethanol, dimethanesulfonate; 1,1,3,3-tetramethylcyclobutanediol, dimethanesulfonate, and ethanol 2,2'-oxybis-dimethanesulfonate.

C' 21. (Original) The method of claim 1 wherein A of said light absorbing polymeric composition comprises 100 mole% of said light-absorbing monomer.

22. (Original) The method of claim 1 wherein said diacidic light absorbing monomer has a light absorption maximum between about 300 nm and about 1200 nm and is present in said light absorbing polymeric composition in an amount at least about 50% by weight %.

#### Claim 23

23. (Currently Amended) A light absorbing composition having the formula



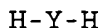
wherein A<sub>1</sub> comprises the residue of at least one diacidic monomer having a light absorption maximum between about ~~300 nm~~ 325 nm and about ~~1200 nm~~ 1100 nm, and wherein B is a divalent organic radical

selected from the group consisting of C<sub>2</sub>-C<sub>12</sub> alkylene, C<sub>3</sub>-C<sub>8</sub> cycloalkylene, C<sub>1</sub>-C<sub>4</sub> alkylene- C<sub>3</sub>- C<sub>8</sub>-cycloalkylene- C<sub>1</sub>-C<sub>4</sub> alkylene, C<sub>1</sub>-C<sub>4</sub> alkylene-arylene- C<sub>1</sub>-C<sub>4</sub> alkylene, and C<sub>2</sub>- C<sub>4</sub>-alkylene-L-arylene-L- C<sub>2</sub>-C<sub>4</sub> alkylene and C<sub>2</sub>-C<sub>4</sub> alkylene-(L- C<sub>2</sub>-C<sub>4</sub> alkylene)<sub>1-4</sub>, wherein L is a linking group selected from-O-, -S-, -SO<sub>2</sub>-, -NH-, -N(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(aryl)-, -N(SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(SO<sub>2</sub>aryl)-, -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)- and combinations thereof; wherein n is at least 2 and wherein at least one of said diacidic monomer comprises at least about 50% by weight of the total composition.

24. (Original) A composition comprising a thermoplastic polymer blended with at least one light absorbing linear polymeric composition of claim 23.

C' 25. (Original) The composition of claim 24 wherein said thermoplastic polymer is selected from the group consisting of polyesters, polyolefins, polyamides, polyimides, polyvinyl chloride, polyurethanes, polycarbonates, cellulose esters, polyacrylates, polyvinylesters, polyester-amides, polystyrene, polyacrylonitrile-butadiene- styrene, polystyrene-acrylonitrile and mixtures and blends thereof.

26. (Original) The composition of claim 23 wherein A<sub>1</sub> comprises the residue of at least one diacidic monomer having the structure



wherein H represents an acidic hydrogen atom and Y is a divalent light-absorbing moiety selected from the chromophoric classes consisting of azo, disazo, triazo, bis-azo, methine, arylidene, polymethine, azo-methine, azamethine, anthraquinone, anthrapyridone (3H-dibenz[f,ij] isoquinoline-2,7-dione, nitroarylamines anthrapyridine (7H-dibenz[f,ij]isoquinoline-7-one, phthaloylphenothiazine (14H-naphth[2,3-a]phenothiazine-8,13-dione, benzanthrone (7H(de)anthracene-7-one), anthrapyrimidine (7H-benzo[e]perimidine-7-one), anthrapyrazole, anthraisothiazole, triphenodioxazine, thiaxanthene-9-one, fluorindine (5,12-dihydroquinoxaline [2,3-b]phenazine, quinophthalone,

C<sup>1</sup> phthalocyanine, metal phthalocyanine, naphthalocyanine, metal naphthalocyanine, nickel dithiolenes, squarylium compounds, croconium compounds, coumarin (2H-1-benzopyran-2-one), coumarin imine (2H-1-benzopyran-2-imine), perinone, benzodifuran, phthaloylacridone, phthaloylphenoxazine (14H-naphtho[2,3-a]phenoxazine-8,13-dione, phthaloylacridone (13H-naphtho[2,3-c]acridine-5,8,14-trione), anthraquinonethioxanthane (8H-naphtho[2,3-c]thioxanthene-5,8,13-trione, anthrapyridazone, pyrrolo[3,4-c]pyrrole, indigo, thioindigo, quinoline, xanthene, acridine, azine, cyanines, oxazine, 1,4 and 1,5-naphthoquinones, 2,5-diarylamino-terephthalic acids and esters, pyromellitic acid diimide, naphthalene-1,4,5,8-tetracarboxylic acid diimide, 3,4,9,10-perylenetetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxopyrroline, arylisoindoline, hydroxybenzophenone, benzotriazole, naphthotriazole, diminoisoindoline, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and 3-imine, phthalimides, 2-arylbenzazoles, carbostyryls, 1,2-diarylethenes, 2,5-diarylthiophenes, 2,5-diaryl-1,3,4-oxadiazoles, triazines, 2,5-diarylfurans, 2,5-diaryl-1,3,4-thiadiazoles, thiophenes, 1,3-diphenyl-2-pyrazolines, 2-arylbenzofurans, 2,6-diphenylbenzofurans, quinolines, quinoxalines, 3,4-diarylfuranones, distyrylarenes, benzanthrones, polyarenes and naphthalimides.

27. Cancelled.

28. (Original) The light absorbing linear polymeric composition of Claim 25 wherein A<sub>1</sub> comprises the residue of at least one diacidic monomer having at least one acidic group other than carboxy and having a light absorption maximum between about 300 nm and about 1200 nm and wherein B is a divalent organic radical selected from C<sub>2</sub>-C<sub>12</sub> alkylene, C<sub>3</sub>-C<sub>8</sub> cycloalkylene, C<sub>1</sub>-C<sub>4</sub> alkylene-C<sub>3</sub>-C<sub>8</sub>-cycloalkylene-C<sub>1</sub>-C<sub>4</sub> alkylene, C<sub>1</sub>-C<sub>4</sub> alkylene-arylene-C<sub>1</sub>-C<sub>4</sub> alkylene, and C<sub>2</sub>-C<sub>4</sub>-alkylene-L-arylene-L-C<sub>2</sub>-C<sub>4</sub> alkylene and C<sub>2</sub>-C<sub>4</sub> alkylene-(L-C<sub>2</sub>-C<sub>4</sub> alkylene)<sub>1-4</sub>, wherein L is a linking group selected from-O-, -S-, -SO<sub>2</sub>-, -NH-, -N(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(aryl)-, -N(SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl)-, -(SO<sub>2</sub>aryl)-, -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)- and combinations thereof; wherein n is at least 2.

29. (Original) The process of claim 2 wherein said light absorbing monomer comprises two carboxy groups as acidic functional groups.

30. (Original) The process of claim 2 wherein said light absorbing monomer comprises two 1(H)-1,2,4-triazol-3-ylthio groups as acidic functional groups.

31. (Original) The process of claim 2 wherein said light absorbing monomer comprises one carboxy and one 1(H)-1,2,4-triazol-3-ylthio group as acidic functional groups.

32. (Original) The process of claim 2 wherein said light absorbing monomer comprises two hydroxy groups attached to aromatic ring(s).

C' 33. (Original) The process of claim 2 wherein said light absorbing monomer comprises one imide group and one carboxy group.

34. (Original) The process of claim 2 wherein said light absorbing monomer comprises one imide group and one 1(H)-1,2,4-triazol-3-ylthio group.

35. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two carboxy groups as acidic functional groups.

36. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two 1(H)-1,2,4-triazol-3-ylthio groups as acidic functional groups.

37. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises one carboxy and one 1(H)-1,2,4-triazol-3-ylthio group as acidic functional groups.

38. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two hydroxy groups attached to aromatic ring(s).

39. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises one imide group and one carboxy group.

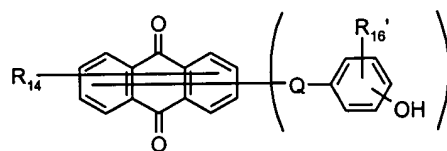
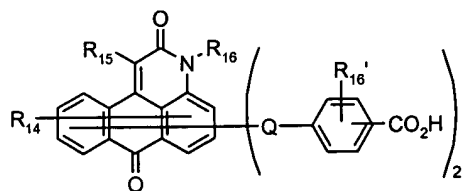
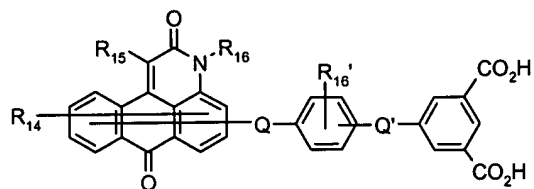
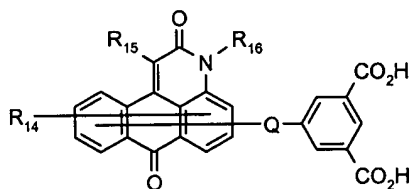
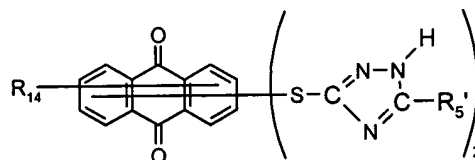
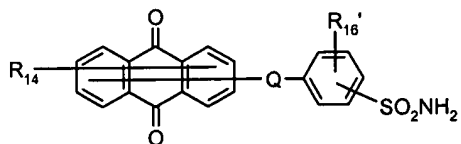
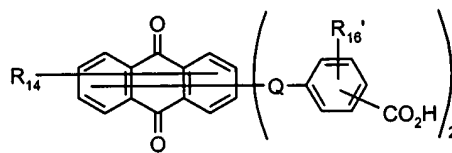
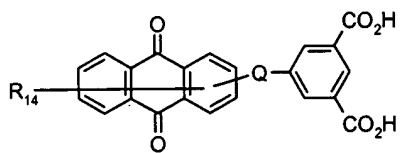
40. (Original) The composition of claim 23 wherein said light absorbing monomer comprises one imide group and one 1(H)-1,2,4-triazol-3-ylthio group.

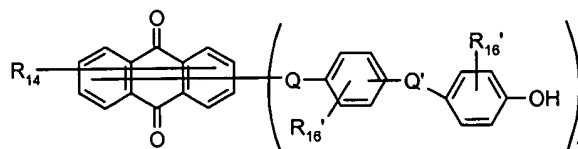
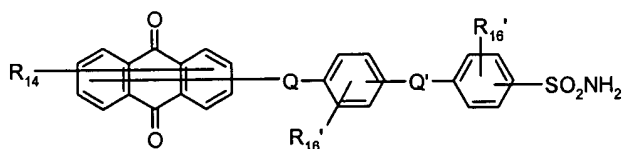
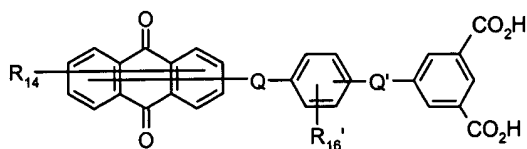
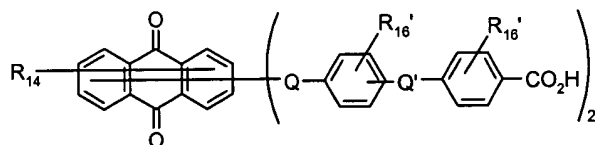
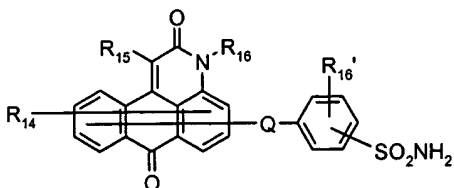
41. (Original) The composition of claim 23 wherein said light absorbing monomer comprises a diacidic sulfamoyl ( $-\text{SO}_2\text{NH}_2$ ) group.

C 42. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two acidic groups independently selected from the group consisting of  $-\text{CO}_2\text{H}$ ,  $\text{SH}$ , hydroxy attached to an aromatic ring,  $-\text{CONHCO}-$  (imide),  $-\text{SO}_2\text{NHCO}-$ ,  $-\text{SO}_2\text{NHSO}_2-$ , 1(H)-1,2,4-triazolyl-3-yl-, imidazolyl, benzimidazolyl, pyrazolyl,  $-\text{SO}_2\text{H}$  attached to an aromatic ring,  $-\text{NHSO}_2\text{R}_5$  and  $-\text{SO}_2\text{NHR}_5$ , wherein  $\text{R}_5$  is selected from the group consisting of  $\text{C}_1$ - $\text{C}_6$  alkyl;  $\text{C}_1$ - $\text{C}_6$  alkyl substituted with at least one group selected from  $\text{C}_1$ - $\text{C}_6$  alkoxy, aryl, aryloxy, arylthio and  $\text{C}_3$ - $\text{C}_8$  cycloalkyl;  $\text{C}_3$ - $\text{C}_8$  cycloalkyl; aryl.

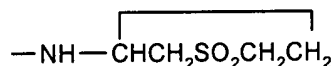
Claims 43 - 51 (Cancelled).

52. (Currently Amended) The composition of claim ~~51~~ 26 wherein the light absorbing portion of  $\text{A}$   $\text{A}_1$  comprises the residue of at least one diacidic light absorbing monomer selected from the group consisting of the anthraquinone and anthrapyridone colorants having the structures:



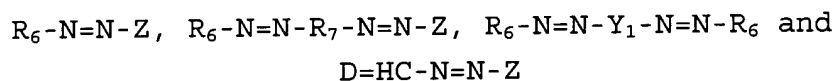


wherein  $R_{14}$  is selected from the group consisting of hydrogen and 1-4 groups selected from amino,  $C_1$ - $C_{10}$  alkylamino,  $C_3$ - $C_8$  alkenylamino,  $C_3$ - $C_8$  alkynylamino,  $C_3$ - $C_8$  cycloalkylamino, arylamino, halogen,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio, aryl, aroyl,  $C_1$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  alkanoyloxy,  $NHCO$   $C_1$ - $C_6$  alkyl,  $NHCO$ aryl,  $NHCO_2$   $C_1$ - $C_6$  alkyl,  $NHSO_2$   $C_1$ - $C_6$  alkyl,  $NHSO_2$  aryl,  $C_1$ - $C_6$  alkoxycarbonyl, aryloxy, arylthio, heteroarylthio, cyano, nitro, trifluoromethyl, thiocyno,  $SO_2$   $C_1$ - $C_6$  alkyl,  $SO_2$  aryl,  $-SO_2NH$   $C_1$ - $C_6$  alkyl,  $-SO_2N(C_1-C_6 \text{ alkyl})_2$ ,  $-SO_2N(C_1-C_6 \text{ alkyl})$  aryl,  $CONH$   $C_1$ - $C_6$  alkyl,  $CON(C_1-C_6 \text{ alkyl})_2$ ,  $CON(C_1-C_6 \text{ alkyl})$  aryl,  $C_1$ - $C_6$  alkyl, furfurylamino, tetrahydrofurfurylamino, 4-(hydroxymethyl) cyclohexanemethylamino,



or hydroxy; Q and Q' are independently selected from the group consisting of -O-, -N(COR<sub>10</sub>)-, -N(SO<sub>2</sub>R<sub>10</sub>)-, -N(R<sub>10</sub>)-, -S-, -SO<sub>2</sub>-, -CO<sub>2</sub>-, -CON(R<sub>10</sub>)-, SO<sub>2</sub>N(R<sub>10</sub>)-, wherein R<sub>10</sub> is selected from the group consisting of hydrogen, aryl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, or C<sub>1</sub>-C<sub>10</sub> alkyl; R<sub>15</sub> is selected from the group consisting of hydrogen, cyano, C<sub>1</sub>-C<sub>6</sub> alkylamino, C<sub>1</sub>-C<sub>6</sub> alkoxy, halogen, arylthio, aryl, heteroaryl, heteroarylthio, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, aroyl or arylsulfonyl; R<sub>16</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl and aryl; R<sub>16</sub>' is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, halogen and C<sub>1</sub>-C<sub>6</sub> alkoxy; wherein each C<sub>1</sub>-C<sub>6</sub> alkyl group and C<sub>1</sub>-C<sub>6</sub> alkyl group which is a portion of another group may contain at least one substituent selected from the group consisting of hydroxy, cyano, chlorine, fluorine, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>8</sub> cycloalkoxy, C<sub>1</sub>-C<sub>6</sub> alkylcyclohexyl, hydroxymethyl cyclohexyl, aryl and heteroaryl; with the provision that two acidic groups containing one acidic proton each or one acidic group containing two acidic hydrogens be present in the diacidic compounds.

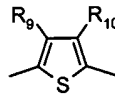
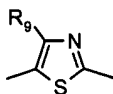
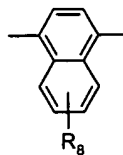
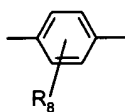
53. (Currently Amended) The composition of claim 26 ~~or 27~~ wherein the light absorbing portion of A<sub>1</sub> comprises the residue of at least one light absorbing monomer selected from the group consisting of azo, disazo, bis-azo and azomethine and having respectively the structures:



wherein R<sub>6</sub> is the residue of an aromatic or heteroaromatic amine which has been diazotized and coupled with a coupling component H-Z and is derived from an amine selected from the group consisting of aromatic and heteroaromatic amine classes selected from the group consisting of aniline, 1-aminonaphthalene, 1-aminoanthraquinone, 4-aminoazobenzene, 2-aminothiazole, 2-aminobenzothiazole, 3-amino-2,1-benzisothiazole, 2-aminothieno[2,3-d]thiazole, 5-aminoisothiazole, 5-aminopyrazole, 4-aminopyrazoloisothiazole, 2-amino-1,3,4-thiadiazole, 5-amino-1,2,4-thiadiazole, 5-amino-1,2,3-triazole, 2-amino-1,3,4-triazole, 2(5) aminoimidazole, 3-aminopyridine, 2(3) aminothiophene, 2(3) aminobenzo[b]thiophene,

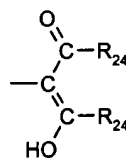
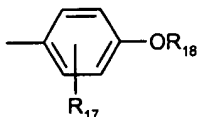
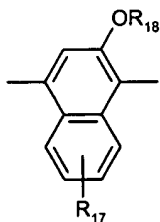
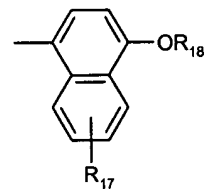
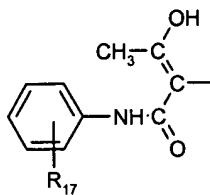
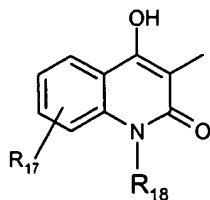
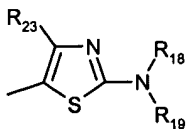
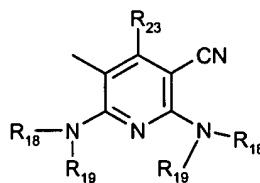
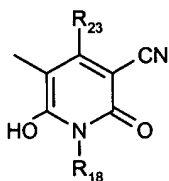
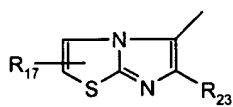
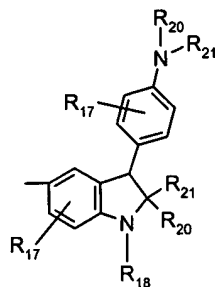
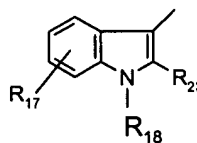
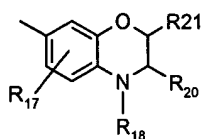
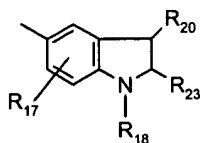
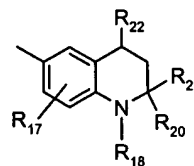
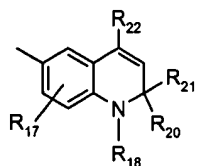
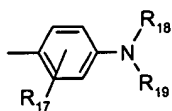
C<sup>1</sup>

2-aminothieno[3,2-b]thiophene, 3-aminothieno[2,3-c]isothiazole, 3-amino-7-benz-2,1-isothiazole, 3-aminobenzothienoisothiazole, 3-aminoisothiazole[3,4-d]pyrimidine, 5-amino-1,2,3-triazole, 3(4) aminophthalimide and 5(6) amino-1,2-benzisothiazolon-1,1-dioxide with said aromatic and heteroaromatic ring systems being unsubstituted or substituted with one or more groups selected from C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, carboxy, halogen, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, formyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, dicyanovinyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkanoyl, thiocyano, trifluoroacetyl, cyano, carbamoyl, -CONH-C<sub>1</sub>-C<sub>6</sub> alkyl, CONHaryl, CON(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, sulfamoyl, SO<sub>2</sub>NH C<sub>1</sub>-C<sub>6</sub> alkyl, SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, SO<sub>2</sub>NHaryl, SO<sub>2</sub>NH C<sub>3</sub>-C<sub>8</sub> cycloalkyl, CONH C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl, aroyl, -NHSO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, -N(C<sub>1</sub>-C<sub>6</sub> alkyl)SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, -NHSO<sub>2</sub> aryl, NHCO C<sub>1</sub>-C<sub>6</sub> alkyl, NHCO C<sub>3</sub>-C<sub>8</sub> cycloalkyl, NHCOaryl, NHCO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, NHCONH C<sub>1</sub>-C<sub>6</sub> alkyl, NHCONHaryl, N(C<sub>1</sub>-C<sub>6</sub> alkyl)aryl, arylazo, heteroaryl, aryloxy, arylthio, C<sub>3</sub>-C<sub>8</sub> cycloalkoxy, heteroarylazo, heteroarylthio, arylsulfonyl, tricyanovinyl, aryloxysulfonyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, trifluoromethyl, fluorosulfonyl, trifluoromethylsulfonyl, thiocyano, hydroxy, nitro or CH=D, wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C<sub>1</sub>-C<sub>6</sub> alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C<sub>1</sub>-C<sub>6</sub> alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-C(CH<sub>3</sub>)C=C(CN)<sub>2</sub>; wherein R<sub>7</sub> is a divalent aromatic or heteroaromatic radical selected from the group consisting of 1,4-phenylene, naphthalene-1,4-diyl, thiazol-2,5-diyl and thiophene-2,5-diyl:

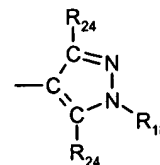


wherein  $R_8$  is selected from the group consisting of hydrogen or 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy, cyano, halogen,  $-NHCO$   $C_1$ - $C_6$  alkyl,  $-NHCO_2$   $C_1$ - $C_6$  alkyl,  $-NHCO$  aryl,  $-NHCONH$  aryl or  $NHCONH$   $C_1$ - $C_6$  alkyl;  $R_9$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl, halogen, aryl, heteroaryl;  $R_{10}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkoxycarbonyl, cyano, carbamoyl, aryl, arylsulfonyl, aroyl,  $-CONH$   $C_1$ - $C_6$  alkyl, or  $C_1$ - $C_6$  alkylsulfonyl; wherein Z is the residue of a coupling compound selected from the group consisting of electron rich compound classes of anilines, 1-aminonaphthalenes, 1,2-dihydroquinolines, 1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro-2H-1,4-benzoxazine), pyrazolones, pyrazoles, 3-cyano-6-hydroxy-2-pyridones, 2,3-dihydroindoles, indoles, 4-hydroxycoumarins, 4-hydroxy-2-quinolones, imidazo[2,1-b]thiazoles, julolidines (2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizines), 1-oxajulolidines, 1,2,5,6-tetrahydro-4H-pyrrolo[3,2,1-ij]quinolines, 2,6-diamino-3 cyanopyridines, 2-aminothiazoles, 2-aminothiophenes, 5,5-dimethyl-1,3-cyclohexanedione (dimedone), phenols, naphthols, 2,4-pentanediones or acetoacetarilides; wherein  $Y_1$  is the residue of a bis coupling component selected from the group consisting of anilines, 1,2-dihydroquinolines, 1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro-2H-1,4-benzoxazines), 3-cyano-6-hydroxy-2-pyridones, 2,6-diaminopyridines, 2,3-dihydroindoles, naphthylamines, 2-aminothiazoles, or a combination of these; with the provision that two acidic functional groups containing one acidic hydrogen each or a functional group containing two acidic hydrogen are present in the diacidic light absorbing monomer.

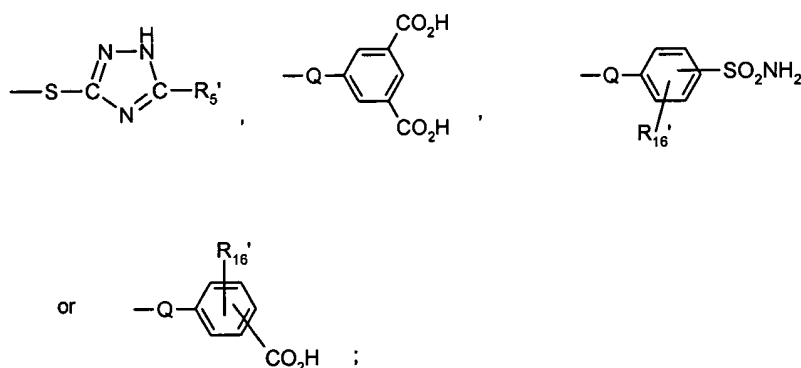
54. (Original) The composition of claim 53 wherein Z is selected from the group consisting of:



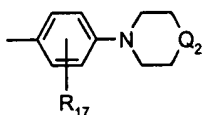
or



wherein  $R_{17}$  is selected from the group consisting of hydrogen, 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio, -O  $C_2$ - $C_6$  alkylene-OH, O  $C_2$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy,  $C_1$ - $C_6$  alkylene-OH,  $C_1$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy, halogen, carboxy,  $C_1$ - $C_6$  alkoxy, carbonyl, trifluoromethyl,  $NHCO_2R_{24}$ ,  $NHCO_2R_{24}$ ,  $NHCON(R_{24})R_{25}$ , and  $NHSO_2R_{25}$ , wherein  $R_{24}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl,  $R_{25}$  is selected from the group consisting of  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl wherein each  $C_1$ - $C_{10}$  alkyl group in  $R_{24}$  and  $R_{25}$  may be further substituted with one or more groups selected from the group consisting of  $C_3$ - $C_8$  cycloalkyl, aryl, aryloxy, arylthio,  $CO_2H$ ,  $CO_2$ ,  $C_1$ - $C_6$  alkyl, cyano, hydroxy, succinimido,  $C_1$ - $C_6$  alkoxy,

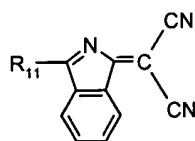
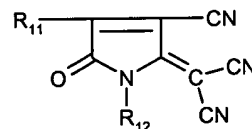
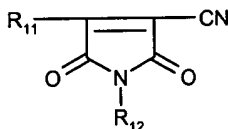
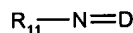
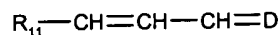
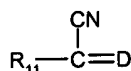
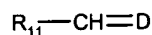


wherein  $R_5'$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl or aryl;  $R_{16}'$  is selected from hydrogen or one or two groups selected from  $C_1$ - $C_6$  alkyl, halogen and  $C_1$ - $C_6$  alkoxy;  $Q$  is selected from the group consisting of -O-, -N( $CO_2R_{10}$ )-, -N( $R_{10}$ )-, -S-, - $SO_2$ -, - $CO_2$ -, -CON( $R_{10}$ ), - $SO_2$ ( $R_{10}$ )-, wherein  $R_{10}$  is selected from the group consisting of hydrogen, aryl,  $C_3$ - $C_8$  cycloalkyl or  $C_1$ - $C_{10}$  alkyl;  $R_{18}$  and  $R_{19}$  are independently selected from the group consisting of hydrogen, unsubstituted  $C_1$ - $C_{10}$  alkyl, substituted  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl,  $C_3$ - $C_8$  alkenyl,  $C_3$ - $C_8$  alkynyl and aryl or  $R_{18}$  and  $R_{19}$  may be combined with another element to which they are attached to form a radical Z having the formula



wherein  $Q_2$  is selected from the group consisting of a covalent bond, -O-, -S-, -SO<sub>2</sub>-, -CO-, -CO<sub>2</sub>-, -N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(COC<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(SO<sub>2</sub>C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(CO aryl)-, or -N(SO<sub>2</sub> aryl);  $R_{20}$ ,  $R_{21}$  and  $R_{22}$  are independently selected from the group consisting of hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;  $R_{23}$  is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, heteroaryl or aryl.

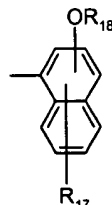
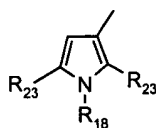
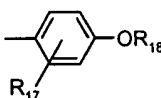
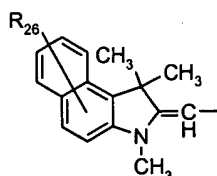
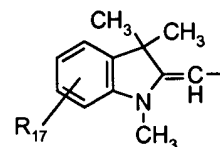
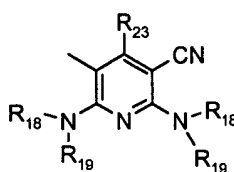
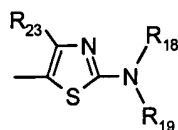
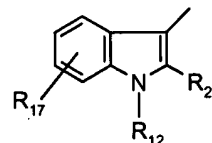
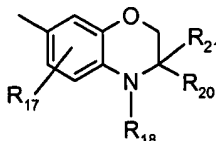
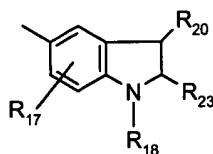
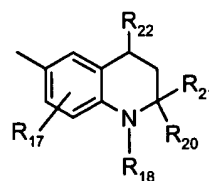
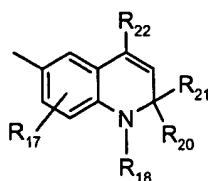
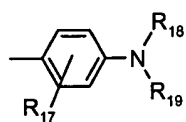
55. (Currently Amended) The composition of claim 26 ~~or 51~~ wherein the light absorbing portion of  $A_{A_1}$  comprises the residue of at least one light absorbing monomer selected from the group consisting of methine, arylidene, polymethine, azamethine, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxypyrroline and arylisoindoline and having respectively the structures:



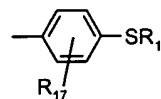
wherein  $R_{11}$  is the residue of an electron rich aromatic compound selected from the group consisting of an aniline, 1-naphthylamine, 1,2-dihydroquinoline, 1,2,3,4-tetrahydroquinoline, 1,3,3-trimethyl-2-methyleneindole, 1,3-dihydro-2-methylene-1,1,3-trimethyl-2H-benz[e]indole, imidazo [2,1-b] thiazole, benzomorpholine (3,4-

dihydro-2H-1,4,benzoxazine), 2,3-dihydroindole, indole, 2-aminothiazole, julolidine (2,3,6,7-tetrahydro-1H, 5H- benz [ij] quinolizine, 1-oxajulolidine, 4H-pyrrolo [3,2,1-ij]-quinoline, phenol, naphthol, thiophenol, pyrrole, pyrazole, furan, thiophene, carbazole, phenothiazine or phenoxazine compound;  $R_{12}$  is selected from the group consisting of hydrogen,  $C_1-C_{10}$  alkyl,  $C_3-C_8$  alkenyl,  $C_3-C_8$ -alkynyl,  $C_3-C_8$  cycloalkyl, aryl,  $(CH_2CH_2O)_{1-3}$   $R_{13}$  and  $C_1-C_4$  alkylene-  $C_3-C_8$  cycloalkylene, wherein the  $C_1-C_6$  alkyl groups may be substituted by at least one group selected from the group consisting of carboxy,  $C_1-C_6$  carbalkoxy,  $C_1-C_6$  alkanoyloxy, cyano, hydroxy, chlorine, fluorine,  $C_1-C_6$  alkoxy,  $C_3-C_8$  cycloalkyl or aryl;  $R_{13}$  is selected from the group consisting of hydrogen,  $C_1-C_6$  alkoxy or  $C_1-C_6$  alkanoyloxy; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile,  $\alpha$ -cyanoacetic acid esters, malonic acid esters,  $\alpha$ -cyanacetic acid amides,  $\alpha$ - $C_1-C_6$  alkylsulfonylacetonitriles,  $\alpha$ -arylsulfonylacetonitriles,  $\alpha$ - $C_1-C_6$  alkanoylacetonitriles,  $\alpha$ -aroylacetonitriles,  $\alpha$ -heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl- $C(CH_3)C=C(CN)_2$ , with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

56. (Original) The composition of claim 55 wherein  $R_{11}$  is selected from the group consisting of the electron rich aromatic residues corresponding to the structures:

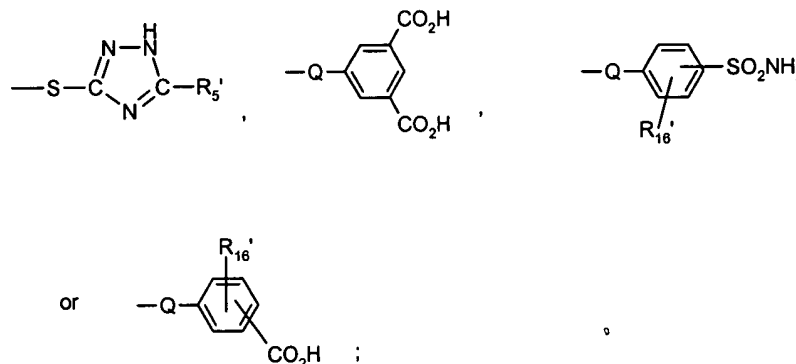


or

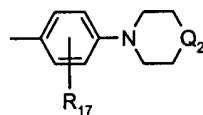


wherein  $R_{26}$  is selected from the group consisting of hydrogen or a group selected from the group consisting of  $C_1$ - $C_6$  alkoxy,  $CO_2H$ ,  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  alkoxy; wherein  $R_{17}$  is selected from the group consisting of hydrogen, and 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio,  $-O$   $C_2$ - $C_6$  alkylene-OH,  $O$   $C_2$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy,  $C_1$ - $C_6$  alkylene-OH,  $C_1$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy, halogen, carboxy,  $C_1$ - $C_6$  alkoxy, trifluoromethyl,  $NHCO_2R_{24}$ ,  $NHCO_2R_{24}$ ,  $NHCON(R_{24})R_{25}$ , and  $NHSO_2R_{25}$ , wherein  $R_{24}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl,  $R_{25}$  is selected from the group consisting of  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl wherein each  $C_1$ - $C_{10}$  alkyl group in  $R_{24}$  and  $R_{25}$  may be further substituted with one

or more groups selected from the group consisting of C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl, aryloxy, arylthio, CO<sub>2</sub>H, CO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl,

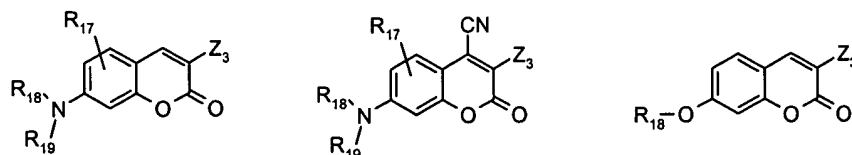


C' wherein R<sub>5</sub>' is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or aryl; R<sub>16</sub>' is selected from the group consisting of hydrogen, one or two groups selected from C<sub>1</sub>-C<sub>6</sub> alkyl, halogen and C<sub>1</sub>-C<sub>6</sub> alkoxy; Q is selected from the group consisting of -O-, -N(COR<sub>10</sub>)-, -N(R<sub>10</sub>)-, -S-, -SO<sub>2</sub>-, -CO<sub>2</sub>-, CON(R<sub>10</sub>), SO<sub>2</sub>(R<sub>10</sub>)-, wherein R<sub>10</sub> is selected from the group consisting of hydrogen, aryl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl or C<sub>1</sub>-C<sub>10</sub> alkyl; R<sub>18</sub> and R<sub>19</sub> are independently selected from the group consisting of hydrogen, unsubstituted C<sub>1</sub>-C<sub>10</sub> alkyl, substituted C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>3</sub>-C<sub>8</sub> alkenyl, C<sub>3</sub>-C<sub>8</sub> alkynyl and aryl or R<sub>18</sub> and R<sub>19</sub> may be combined with another element to which they are attached to form a radical Z having the formula

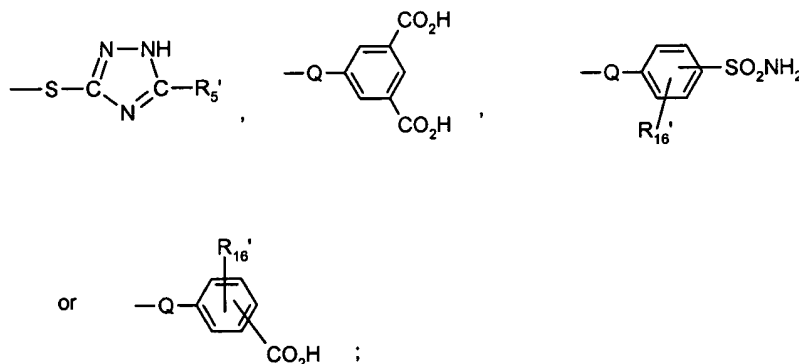


wherein Q<sub>2</sub> is selected from the group consisting of a covalent bond, -O-, -S-, -SO<sub>2</sub>-, -CO-, -CO<sub>2</sub>-, -N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(CO C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(CO aryl)-, or -N(SO<sub>2</sub> aryl); R<sub>20</sub>, R<sub>21</sub> and R<sub>22</sub> are independently selected from the group consisting of hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl; R<sub>23</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, heteroaryl or aryl.

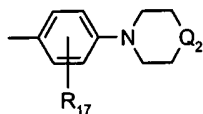
57. (Currently Amended) The composition of claim ~~51~~ 26 wherein the light absorbing portion of A<sub>1</sub> comprises a residue of at least one diacidic coumarin compounds selected from the group consisting of the structures



wherein Z<sub>3</sub> is selected from the group consisting of cyano, C<sub>1</sub>-C<sub>6</sub> alkoxy carbonyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, arylsulfonyl, aryl, heteroaryl, formyl, aroyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl or -CH=D, wherein R<sub>17</sub> is selected from the group consisting of hydrogen, 1-2 groups selected from C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> alkylthio, -O C<sub>2</sub>-C<sub>6</sub> alkylene-OH, O C<sub>2</sub>-C<sub>6</sub> alkylene- C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, C<sub>1</sub>-C<sub>6</sub> alkylene-OH, C<sub>1</sub>-C<sub>6</sub> alkylene- C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, halogen, carboxy, C<sub>1</sub>-C<sub>6</sub> alkoxy carbonyl, trifluoromethyl, NHCOR<sub>24</sub>, NHCO<sub>2</sub>R<sub>24</sub>, NHCON(R<sub>24</sub>)R<sub>25</sub>, and NHSO<sub>2</sub>R<sub>25</sub>, wherein R<sub>24</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl or aryl, R<sub>25</sub> is selected from the group consisting of C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl or aryl wherein each C<sub>1</sub>-C<sub>10</sub> alkyl group in R<sub>24</sub> and R<sub>25</sub> may be further substituted with one or more groups selected from the group consisting of C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl, aryloxy, arylthio, CO<sub>2</sub>H, CO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, cyano, hydroxy, succinimido, C<sub>1</sub>-C<sub>6</sub> alkoxy,

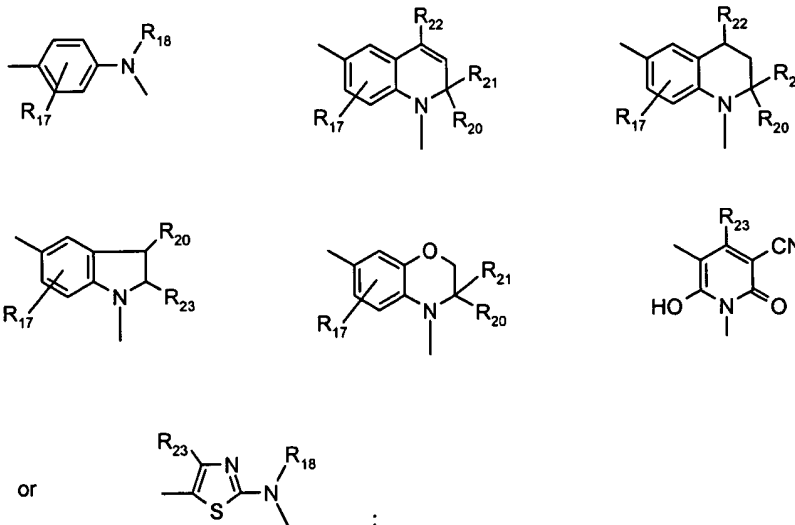


wherein  $R_5'$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl or aryl;  $R_{16}'$  is selected from hydrogen or one or two groups selected from  $C_1$ - $C_6$  alkyl, halogen, and  $C_1$ - $C_6$  alkoxy; Q is selected from the group consisting of  $-O-$ ,  $-N(COR_{10})-$ ,  $-N(R_{10})-$ ,  $-S-$ ,  $-SO_2-$ ,  $-CO_2-$ ,  $CON(R_{10})$ ,  $SO_2(R_{10})-$ , wherein  $R_{10}$  is selected from the group consisting of hydrogen, aryl,  $C_3$ - $C_8$  cycloalkyl or  $C_1$ - $C_{10}$  alkyl;  $R_{18}$  and  $R_{19}$  are independently selected from the group consisting of hydrogen, unsubstituted  $C_1$ - $C_{10}$  alkyl, substituted  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl,  $C_3$ - $C_8$  alkenyl,  $C_3$ - $C_8$  alkynyl and aryl or  $R_{18}$  and  $R_{19}$  may be combined with another element to which they are attached to form a radical Z having the formula



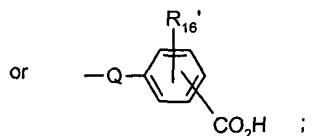
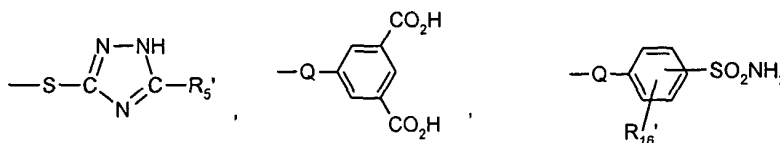
wherein  $Q_2$  is selected from the group consisting of a covalent bond,  $-O-$ ,  $-S-$ ,  $-SO_2-$ ,  $-CO-$ ,  $-CO_2-$ ,  $-N-(C_1-C_6 \text{ alkyl})-$ ,  $-N(CO \text{ } C_1-C_6 \text{ alkyl})-$ ,  $-N(SO_2 \text{ } C_1-C_6 \text{ alkyl})-$ ,  $-N(CO \text{ aryl})-$ , or  $-N(SO_2 \text{ aryl})$ ;  $R_{20}$ ,  $R_{21}$  and  $R_{22}$  are independently selected from the group consisting of or  $C_1$ - $C_6$  alkyl;  $R_{23}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl,  $C_3$ - $C_8$  cycloalkyl, heteroaryl or aryl; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile,  $\alpha$ -cyanoacetic acid esters, malonic acid esters,  $\alpha$ -cyanacetic acid amides,  $\alpha$ - $C_1$ - $C_6$  alkylsulfonylacetonitriles,  $\alpha$ -arylsulfonylacetonitriles,  $\alpha$ - $C_1$ - $C_6$  alkanoylacetonitriles,  $\alpha$ -aroylacetonitriles,  $\alpha$ -heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl- $C(CH_3)C=C(CN)_2$ , with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

58. (Original) The composition of claim 54 wherein the light absorbing portion of A<sub>1</sub> comprises the residue of at least one bis-azo light absorbing monomer wherein the bis coupling component Y<sub>1</sub> is represented by the structure Z<sub>1</sub>-L<sub>1</sub>-Z<sub>2</sub>, wherein Z<sub>1</sub> and Z<sub>2</sub> are independently selected from the group consisting of



wherein, L<sub>1</sub> is bonded to the nitrogen atom of Z<sub>1</sub> and Z<sub>2</sub>; wherein L<sub>1</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>12</sub> alkylene, C<sub>3</sub>-C<sub>8</sub> cycloalkylene, arylene, C<sub>1</sub>-C<sub>4</sub> alkylene- C<sub>3</sub>-C<sub>8</sub> cycloalkylene- C<sub>1</sub>-C<sub>4</sub> alkylene, C<sub>1</sub>-C<sub>4</sub> alkylene-arylene- C<sub>1</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-O- arylene-O- C<sub>2</sub>-C<sub>4</sub> alkylene, (C<sub>2</sub>-C<sub>4</sub> alkylene O)<sub>1-3</sub> C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene- S- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-SO<sub>2</sub>- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-N(SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl)- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-N(SO<sub>2</sub> aryl)- C<sub>2</sub>- C<sub>4</sub>- alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene- OCO<sub>2</sub>- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene- O<sub>2</sub>C-arylene-CO<sub>2</sub>- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-O<sub>2</sub>C- C<sub>1</sub>-C<sub>12</sub> alkylene-CO<sub>2</sub>- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-O<sub>2</sub>C- C<sub>3</sub>-C<sub>8</sub> cycloalkylene-CO<sub>2</sub>- C<sub>2</sub>-C<sub>4</sub> alkylene, C<sub>2</sub>-C<sub>4</sub> alkylene-NHCO- C<sub>2</sub>-C<sub>4</sub> alkylene and C<sub>2</sub>-C<sub>4</sub> alkylene-NHSO<sub>2</sub>- C<sub>2</sub>-C<sub>4</sub> alkylene; wherein R<sub>17</sub> is selected from the group consisting of hydrogen, 1-2 groups selected from C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> alkylthio, -O C<sub>2</sub>-C<sub>6</sub> alkylene-OH, O C<sub>2</sub>-C<sub>6</sub> alkylene- C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, C<sub>1</sub>-C<sub>6</sub> alkylene-OH, C<sub>1</sub>-C<sub>6</sub> alkylene- C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, halogen, carboxy, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, trifluoromethyl, NHCOR<sub>24</sub> , NHCO<sub>2</sub>R<sub>24</sub>, NHCON(R<sub>24</sub>)R<sub>25</sub>, and NHSO<sub>2</sub>R<sub>25</sub>,

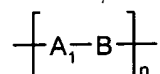
wherein  $R_{24}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl,  $R_{25}$  is selected from the group consisting of  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl wherein each  $C_1$ - $C_{10}$  alkyl group in  $R_{24}$  and  $R_{25}$  may be further substituted with one or more groups selected from the group consisting of  $C_3$ - $C_8$  cycloalkyl, aryl, aryloxy, arylthio,  $CO_2H$ ,  $CO_2$   $C_1$ - $C_6$  alkyl, cyano, hydroxy, succinimido,  $C_1$ - $C_6$  alkoxy,



wherein  $R_5'$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl or aryl;  $R_{16}'$  is selected from hydrogen or one or two groups selected from  $C_1$ - $C_6$  alkyl, halogen and  $C_1$ - $C_6$  alkoxy;  $Q$  is selected from the group consisting of  $-O-$ ,  $-N(COR_{10})-$ ,  $-N(R_{10})-$ ,  $-S-$ ,  $-SO_2-$ ,  $-CO_2-$ ,  $CON(R_{10})$ ,  $SO_2(R_{10})-$ , wherein  $R_{10}$  is selected from the group consisting of hydrogen, aryl,  $C_3$ - $C_8$  cycloalkyl or  $C_1$ - $C_{10}$  alkyl;  $R_{18}$  is selected from the group consisting of hydrogen, unsubstituted  $C_1$ - $C_{10}$  alkyl, substituted  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl,  $C_3$ - $C_8$  alkenyl,  $C_3$ - $C_8$  alkynyl and aryl;  $R_{20}$ ,  $R_{21}$ ,  $R_{22}$  are independently selected from the group consisting of or  $C_1$ - $C_6$  alkyl;  $R_{23}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl,  $C_3$ - $C_8$  cycloalkyl, heteroaryl or aryl.

Claims 59 - 108 (Cancelled).

C<sup>2</sup> 109. (New) A light absorbing composition having the formula



wherein  $A_1$  consists essentially of at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm, and wherein B is a divalent organic radical selected from the group consisting of  $C_2$ - $C_{12}$  alkylene,  $C_3$ - $C_8$  cycloalkylene,  $C_1$ - $C_4$  alkylene-  $C_3$ -  $C_8$ -cycloalkylene-  $C_1$ - $C_4$  alkylene,  $C_1$ - $C_4$  alkylene-arylene-  $C_1$ - $C_4$  alkylene, and  $C_2$ -  $C_4$ -alkylene-L-arylene-L-  $C_2$ - $C_4$  alkylene and  $C_2$ - $C_4$  alkylene-(L-  $C_2$ - $C_4$  alkylene) $_{1-4}$ , wherein L is a linking group selected from-O-, -S-, -SO<sub>2</sub>-, -NH-, -N( $C_1$ - $C_6$  alkyl)-, -N(aryl)-, -N(SO<sub>2</sub>  $C_1$ - $C_6$  alkyl)-, -N(SO<sub>2</sub>aryl)-, -SO<sub>2</sub>N( $C_1$ - $C_6$  alkyl)- and combinations thereof; wherein n is at least 2.

C2 110. (New) A composition comprising a thermoplastic polymer blended with at least one light absorbing linear polymeric composition of claim 109.

111. (New) The composition of claim 110 wherein said thermoplastic polymer is selected from the group consisting of polyesters, polyolefins, polyamides, polyimides, polyvinyl chloride, polyurethanes, polycarbonates, cellulose esters, polyacrylates, polyvinylesters, polyester-amides, polystyrene, polyacrylonitrile-butadiene- styrene, polystyrene-acrylonitrile and mixtures and blends thereof.

112. (New) The light absorbing linear polymeric composition of Claim 111 wherein  $A_1$  comprises the residue of at least one diacidic monomer having at least one acidic group other than carboxy and having a light absorption maximum between about 300 nm and about 1200 nm and wherein B is a divalent organic radical selected from  $C_2$ - $C_{12}$  alkylene,  $C_3$ - $C_8$  cycloalkylene,  $C_1$ - $C_4$  alkylene-  $C_3$ -  $C_8$ -cycloalkylene-  $C_1$ - $C_4$  alkylene,  $C_1$ - $C_4$  alkylene-arylene-  $C_1$ - $C_4$  alkylene, and  $C_2$ -  $C_4$ -alkylene-L-arylene-L-  $C_2$ - $C_4$  alkylene and  $C_2$ - $C_4$  alkylene-(L- $C_2$ - $C_4$  alkylene) $_{1-4}$ , wherein L is a linking group selected from-O-, -S-, -SO<sub>2</sub>-, -NH-, -N( $C_1$ - $C_6$  alkyl)-, -N(aryl)-, -N(SO<sub>2</sub>  $C_1$ - $C_6$

alkyl)-, -(SO<sub>2</sub>aryl)-, -SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)- and combinations thereof; wherein n is at least 2.

113. (New) The composition of claim 109 wherein each residue of diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm has the structure



wherein H represents an acidic hydrogen atom and Y is a divalent light-absorbing monomer selected from the chromophoric classes consisting of azo, disazo, triazo, bis-azo, methine, arylidene, polymethine, azo-methine, azamethine, anthraquinone, anthrapyridone (3H-dibenz[f,ij] isoquinoline-2,7-dione, nitroarylamines anthrapyridine (7H-dibenz[f,ij] isoquinoline-7-one, phthaloylphenothiazine (14H-naphth[2,3-a]phenothiazine-8,13-dione, benzanthrone (7H(de)anthracene-7-one), anthrapyrimidine (7H-benzo[e]perimidine-7-one), anthrapyrazole, anthraisothiazole, triphenodioxazine, thiaxanthene-9-one, fluorindine (5,12-dihydroquinoxaline [2,3-b]phenazine, quinophthalone, phthalocyanine, metal phthalocyanine, naphthalocyanine, metal naphthalocyanine, nickel dithiolenes, squarylium compounds, croconium compounds, coumarin (2H-1-benzopyran-2-one), coumarin imine (2H-1-benzopyran-2-imine), perinone, benzodifuran, phthaloylacridone, phthaloylphenoxazine (14H-naphtho[2,3-a]phenoxazine-8,13-dione, phthaloylacridone (13H-naphtho[2,3-c]acridine-5,8,14-trione), anthraquinonethioxanthene (8H-naphtho[2,3-c]thioxanthene-5,8,13-trione, anthrapyridazone, pyrrolo[3,4-c]pyrrole, indigo, thioindigo, quinoline, xanthene, acridine, azine, cyanines, oxazine, 1,4 and 1,5-naphthoquinones, 2,5-diarylamino-terephthalic acids and esters, pyromellitic acid diimide, naphthalene-1,4,5,8-tetracarboxylic acid diimide, 3,4,9,10-perylenetetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxopyrroline, arylisoindoline, hydroxybenzophenone, benotriazole, naphthotriazole, diminoisoindoline, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and 3-imine, phthalimides, 2-arylbenzazoles, carbostyryls, 1,2-diarylethenes, 2,5-diarylthiophenes, 2,5-diaryl-1,3,4-oxadiazoles, triazines, 2,5-diarylfurans, 2,5-diaryl-1,3,4-thiadiazoles,

thiophenes, 1,3-diphenyl-2-pyrazolines, 2-arylbenzofurans, 2,6-diphenylbenzofurans, quinolines, quinoxalines, 3,4-diarylfuanones, distyrylarenes, benzanthrones, polyarenes and naphthalimides.

114. (New) The composition of claim 109 wherein said light absorbing monomer comprises two carboxy groups as acidic functional groups.

115. (New) The composition of claim 109 wherein said light absorbing monomer comprises two 1(H)-1,2,4-triazol-3-ylthio groups as acidic functional groups.

116. (New) The composition of claim 109 wherein said light absorbing monomer comprises one carboxy and one 1(H)-1,2,4-triazol-3-ylthio group as acidic functional groups.

117. (New) The composition of claim 109 wherein said light absorbing monomer comprises two hydroxy groups attached to aromatic ring(s).

118. (New) The composition of claim 109 wherein said light absorbing monomer comprises one imide group and one carboxy group.

119. (New) The composition of claim 109 wherein said light absorbing monomer comprises one imide group and one 1(H)-1,2,4-triazol-3-ylthio group.

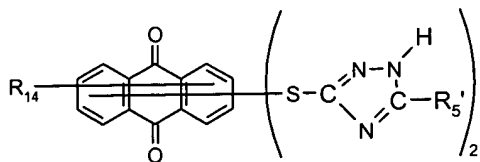
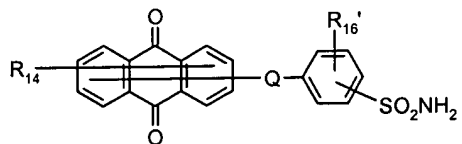
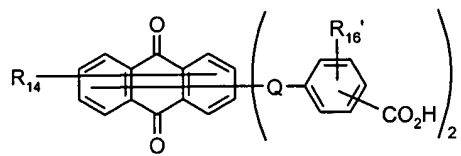
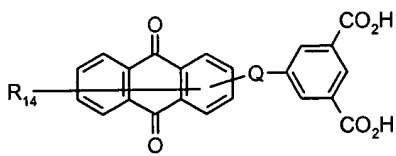
120. (New) The composition of claim 109 wherein said light absorbing monomer comprises a diacidic sulfamoyl ( $-\text{SO}_2\text{NH}_2$ ) group.

121. (New) The composition of claim 109 wherein said light absorbing monomer comprises two acidic groups independently selected from the group consisting of  $-\text{CO}_2\text{H}$ , SH, hydroxy attached to an aromatic ring,  $-\text{CONHCO}-$  (imide),  $-\text{SO}_2\text{NHCO}-$ ,  $-\text{SO}_2\text{NHSO}_2-$ , 1(H)-1,2,4-triazolyl-3-yl-, imidazolyl, benzimidazolyl, pyrazolyl,  $-\text{SO}_2\text{H}$  attached to an aromatic ring,  $-\text{NHSO}_2\text{R}_5$  and  $-\text{SO}_2\text{NHR}_5$ , wherein  $\text{R}_5$  is selected from the group consisting of  $\text{C}_1$ - $\text{C}_6$  alkyl;  $\text{C}_1$ - $\text{C}_6$  alkyl

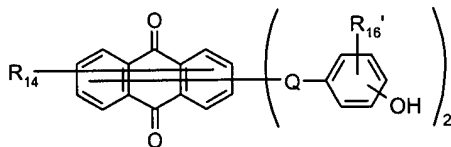
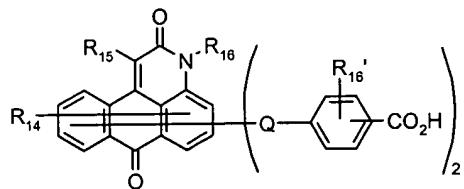
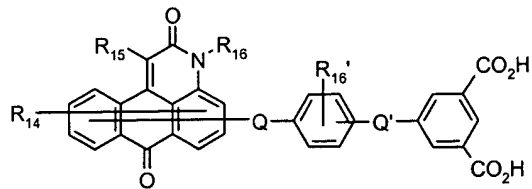
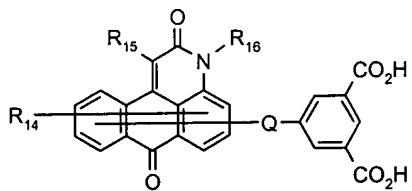
substituted with at least one group selected from C<sub>1</sub>-C<sub>6</sub> alkoxy, aryl, aryloxy, arylthio and C<sub>3</sub>-C<sub>8</sub> cycloalkyl; C<sub>3</sub>-C<sub>8</sub> cycloalkyl; aryl.

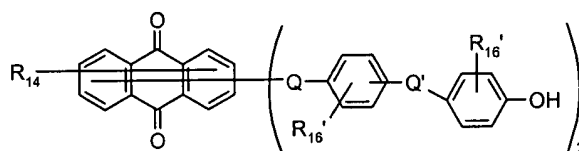
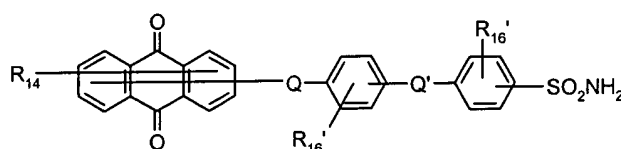
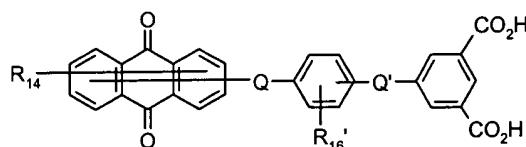
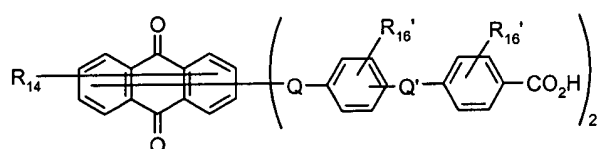
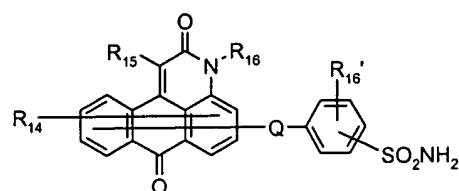
122. (New) The light absorbing linear polymeric composition of claim 109 wherein said at least one diacidic monomer comprises at least about 50% by weight of the total composition.

C2 123. (New) The composition of claim 113 wherein the at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one diacidic light absorbing monomer selected from the group consisting of the anthraquinone and anthrapyridone colorants having the structures:

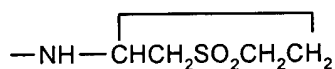


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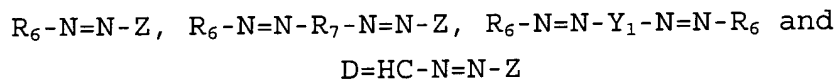


wherein  $R_{14}$  is selected from the group consisting of hydrogen and 1-4 groups selected from amino,  $C_1$ - $C_{10}$  alkylamino,  $C_3$ - $C_8$  alkenylamino,  $C_3$ - $C_8$  alkynylamino,  $C_3$ - $C_8$  cycloalkylamino, arylamino, halogen,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio, aryl, aroyl,  $C_1$ - $C_6$  alkanoyl,  $C_1$ - $C_6$  alkanoyloxy,  $NHCO$   $C_1$ - $C_6$  alkyl,  $NHCO$  aryl,  $NHCO_2$   $C_1$ - $C_6$  alkyl,  $NHSO_2$   $C_1$ - $C_6$  alkyl,  $NHSO_2$  aryl,  $C_1$ - $C_6$  alkoxycarbonyl, aryloxy, arylthio, heteroarylthio, cyano, nitro, trifluoromethyl, thiocyano,  $SO_2$   $C_1$ - $C_6$  alkyl,  $SO_2$  aryl,  $-SO_2NH$   $C_1$ - $C_6$  alkyl,  $-SO_2N(C_1-C_6 \text{ alkyl})_2$ ,  $-SO_2N(C_1-C_6 \text{ alkyl})$  aryl,  $CONH$   $C_1$ - $C_6$  alkyl,  $CON(C_1-C_6 \text{ alkyl})_2$ ,  $CON(C_1-C_6 \text{ alkyl})$  aryl,  $C_1$ - $C_6$  alkyl, furfurylamino, tetrahydrofurfurylamino, 4-(hydroxymethyl) cyclohexanemethylamino,



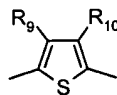
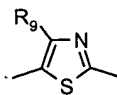
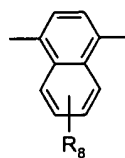
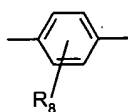
or hydroxy; Q and Q' are independently selected from the group consisting of -O-, -N(COR<sub>10</sub>)-, -N(SO<sub>2</sub>R<sub>10</sub>)-, -N(R<sub>10</sub>)-, -S-, -SO<sub>2</sub>-, -CO<sub>2</sub>-, -CON(R<sub>10</sub>)-, SO<sub>2</sub>N(R<sub>10</sub>)-, wherein R<sub>10</sub> is selected from the group consisting of hydrogen, aryl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, or C<sub>1</sub>-C<sub>10</sub> alkyl; R<sub>15</sub> is selected from the group consisting of hydrogen, cyano, C<sub>1</sub>-C<sub>6</sub> alkylamino, C<sub>1</sub>-C<sub>6</sub> alkoxy, halogen, arylthio, aryl, heteroaryl, heteroarylthio, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, aroyl or arylsulfonyl; R<sub>16</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl and aryl; R<sub>16</sub>' is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, halogen and C<sub>1</sub>-C<sub>6</sub> alkoxy; wherein each C<sub>1</sub>-C<sub>6</sub> alkyl group and C<sub>1</sub>-C<sub>6</sub> alkyl group which is a portion of another group may contain at least one substituent selected from the group consisting of hydroxy, cyano, chlorine, fluorine, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>8</sub> cycloalkoxy, C<sub>1</sub>-C<sub>6</sub> alkylcyclohexyl, hydroxymethyl cyclohexyl, aryl and heteroaryl; with the provision that two acidic groups containing one acidic proton each or one acidic group containing two acidic hydrogens be present in the diacidic compounds.

124. (New) The composition of claim 113 wherein at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one light absorbing monomer selected from the group consisting of azo, disazo, bis-azo and azomethine and having respectively the structures:



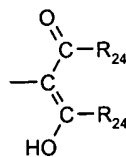
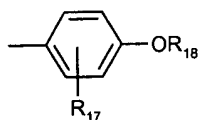
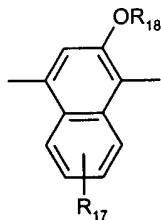
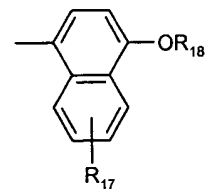
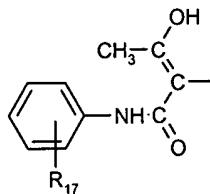
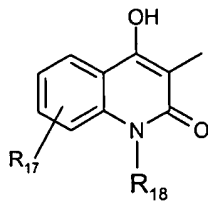
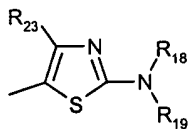
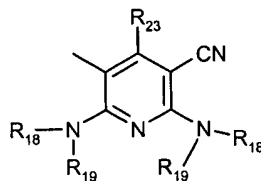
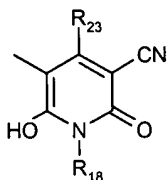
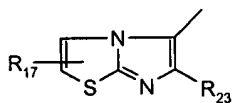
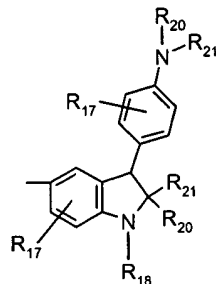
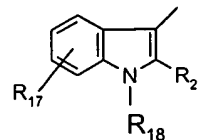
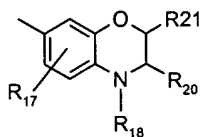
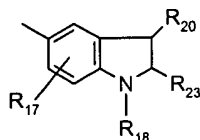
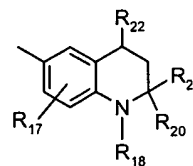
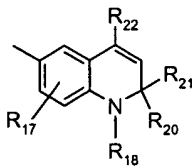
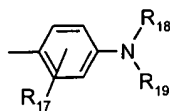
wherein R<sub>6</sub> is the residue of an aromatic or heteroaromatic amine which has been dizaotized and coupled with a coupling component H-Z and is derived from an amine selected from the group consisting of aromatic and heteroaromatic amine classes selected from the group consisting of aniline, 1-aminonaphthalene, 1-aminoanthraquinone, 4-aminoazobenzene, 2-aminothiazole, 2-aminobenzothiazole, 3-amino-2,1-benzisothiazole, 2-aminothieno[2,3-d]thiazole, 5-aminoisothiazole, 5-aminopyrazole, 4-aminopyrazoloisothiazole, 2-amino-1,3,4-thiadiazole, 5-amino-1,2,4-thiadiazole, 5-amino-1,2,3-triazole, 2-amino-1,3,4-triazole, 2(5) aminoimidazole,

3-aminopyridine, 2(3) aminothiophene, 2(3) aminobenzo[b]thiophene, 2-aminothieno[3,2-b]thiophene, 3-aminothieno[2,3-c]isothiazole, 3-amino-7-benz-2,1-isothiazole, 3-aminobenzothienoisothiazole, 3-aminoisothiazole[3,4-d]pyrimidine, 5-amino-1,2,3-triazole, 3(4) aminophthalimide and 5(6) amino-1,2-benzisothiazolon-1,1-dioxide with said aromatic and heteroaromatic ring systems being unsubstituted or substituted with one or more groups selected from C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, carboxy, halogen, C<sub>1</sub>-C<sub>6</sub> alkoxycarbonyl, formyl, C<sub>1</sub>-C<sub>6</sub> alkanoyl, C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, dicyanovinyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkanoyl, thiocyano, trifluoroacetyl, cyano, carbamoyl, -CONH-C<sub>1</sub>-C<sub>6</sub> alkyl, CONHaryl, CON(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, sulfamoyl, SO<sub>2</sub>NH C<sub>1</sub>-C<sub>6</sub> alkyl, SO<sub>2</sub>N(C<sub>1</sub>-C<sub>6</sub> alkyl)<sub>2</sub>, SO<sub>2</sub>NHaryl, SO<sub>2</sub>NH C<sub>3</sub>-C<sub>8</sub> cycloalkyl, CONH C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl, aroyl, -NHSO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, -N(C<sub>1</sub>-C<sub>6</sub> alkyl)SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, -NHSO<sub>2</sub> aryl, NHCO C<sub>1</sub>-C<sub>6</sub> alkyl, NHCO C<sub>3</sub>-C<sub>8</sub> cycloalkyl, NHCOaryl, NHCO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, NHCONH C<sub>1</sub>-C<sub>6</sub> alkyl, NHCONHaryl, N(C<sub>1</sub>-C<sub>6</sub> alkyl)aryl, arylazo, heteroaryl, aryloxy, arylthio, C<sub>3</sub>-C<sub>8</sub> cycloalkoxy, heteroarylazo, heteroarylthio, arylsulfonyl, tricyanovinyl, aryloxysulfonyl, C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl, trifluoromethyl, fluorosulfonyl, trifluoromethylsulfonyl, thiocyano, hydroxy, nitro or CH=D, wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanoacetic acid amides, α-C<sub>1</sub>-C<sub>6</sub> alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C<sub>1</sub>-C<sub>6</sub> alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-C(CH<sub>3</sub>)C=C(CN)<sub>2</sub>; wherein R<sub>7</sub> is a divalent aromatic or heteroaromatic radical selected from the group consisting of 1,4-phenylene, naphthalene-1,4-diyl, thiazol-2,5-diyl and thiophene-2,5-diyl:

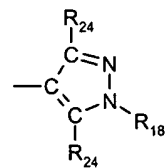


wherein R<sub>8</sub> is selected from the group consisting of hydrogen or 1-2 groups selected from C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> alkoxy, cyano, halogen, -NHCO C<sub>1</sub>-C<sub>6</sub> alkyl, -NHCO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl, -NHCO aryl, -NHCONH aryl or NHCONH C<sub>1</sub>-C<sub>6</sub> alkyl; R<sub>9</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, halogen, aryl, heteroaryl; R<sub>10</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkoxy, carbonyl, cyano, carbamoyl, aryl, arylsulfonyl, aroyl, -CONH C<sub>1</sub>-C<sub>6</sub> alkyl, or C<sub>1</sub>-C<sub>6</sub> alkylsulfonyl; wherein Z is the residue of a coupling compound selected from the group consisting of electron rich compound classes of anilines, 1-aminonaphthalenes, 1,2-dihydroquinolines, 1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro-2H-1,4-benzoxazine), pyrazolones, pyrazoles, 3-cyano-6-hydroxy-2-pyridones, 2,3-dihydroindoles, indoles, 4-hydroxycoumarins, 4-hydroxy-2-quinolones, imidazo[2,1-b]thiazoles, julolidines (2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizines), 1-oxajulolidines, 1,2,5,6-tetrahydro-4H-pyrrolo[3,2,1-ij]quinolines, 2,6-diamino-3 cyanopyridines, 2-aminothiazoles, 2-aminothiophenes, 5,5-dimethyl-1,3-cyclohexanedione (dimedone), phenols, naphthols, 2,4-pentanediones or acetoacetarilides; wherein Y<sub>1</sub> is the residue of a bis coupling component selected from the group consisting of anilines, 1,2-dihydroquinolines, 1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro- 2H-1,4-benzoxazines), 3-cyano-6-hydroxy-2-pyridones, 2,6-diaminopyridines, 2,3-dihydroindoles, naphthylamines, 2-aminothiazoles, or a combination of these; with the provision that two acidic functional groups containing one acidic hydrogen each or a functional group containing two acidic hydrogen are present in the diacidic light absorbing monomer.

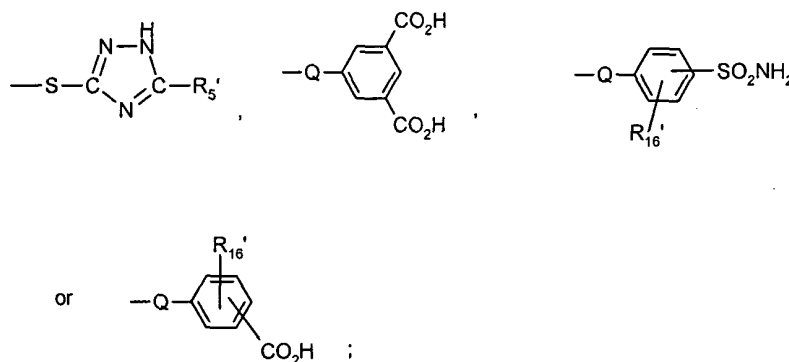
125. (New) The composition of claim 124 wherein Z is selected from the group consisting of:



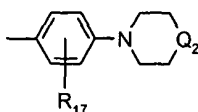
or



wherein  $R_{17}$  is selected from the group consisting of hydrogen, 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio,  $-O$   $C_2$ - $C_6$  alkylene-OH,  $O$   $C_2$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy,  $C_1$ - $C_6$  alkylene-OH,  $C_1$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy, halogen, carboxy,  $C_1$ - $C_6$  alkoxy, carbonyl, trifluoromethyl,  $NHCO_2R_{24}$ ,  $NHCON(R_{24})R_{25}$ , and  $NHSO_2R_{25}$ , wherein  $R_{24}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl,  $R_{25}$  is selected from the group consisting of  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl wherein each  $C_1$ - $C_{10}$  alkyl group in  $R_{24}$  and  $R_{25}$  may be further substituted with one or more groups selected from the group consisting of  $C_3$ - $C_8$  cycloalkyl, aryl, aryloxy, arylthio,  $CO_2H$ ,  $CO_2$   $C_1$ - $C_6$  alkyl, cyano, hydroxy, succinimido,  $C_1$ - $C_6$  alkoxy,

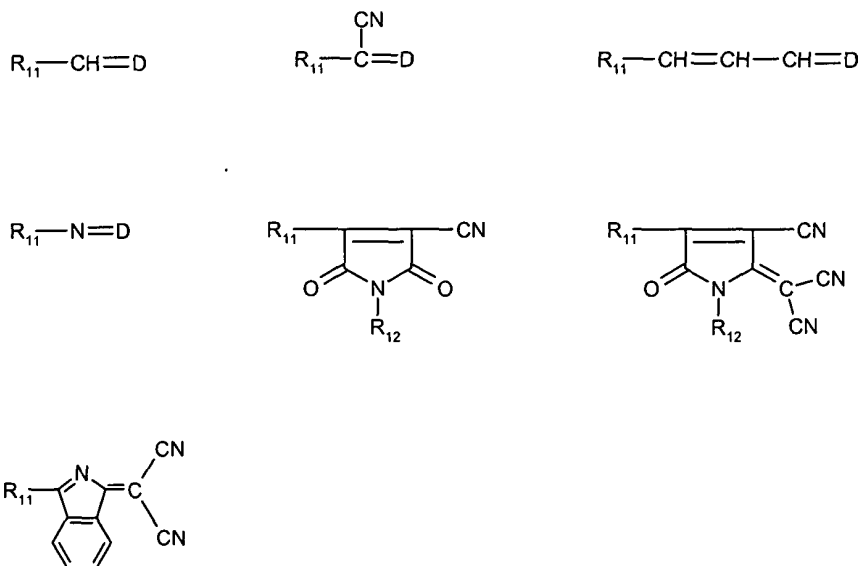


wherein  $R_{5'}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_6$  alkyl or aryl;  $R_{16'}$  is selected from hydrogen or one or two groups selected from  $C_1$ - $C_6$  alkyl, halogen and  $C_1$ - $C_6$  alkoxy;  $Q$  is selected from the group consisting of  $-O-$ ,  $-N(COR_{10})-$ ,  $-N(R_{10})-$ ,  $-S-$ ,  $-SO_2-$ ,  $-CO_2-$ ,  $-CON(R_{10})$ ,  $-SO_2(R_{10})-$ , wherein  $R_{10}$  is selected from the group consisting of hydrogen, aryl,  $C_3$ - $C_8$  cycloalkyl or  $C_1$ - $C_{10}$  alkyl;  $R_{18}$  and  $R_{19}$  are independently selected from the group consisting of hydrogen, unsubstituted  $C_1$ - $C_{10}$  alkyl, substituted  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl,  $C_3$ - $C_8$  alkenyl,  $C_3$ - $C_8$  alkynyl and aryl or  $R_{18}$  and  $R_{19}$  may be combined with another element to which they are attached to form a radical  $Z$  having the formula



wherein  $Q_2$  is selected from the group consisting of a covalent bond, -O-, -S-, -SO<sub>2</sub>-, -CO-, -CO<sub>2</sub>-, -N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(COC<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(SO<sub>2</sub>C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(CO aryl)-, or -N(SO<sub>2</sub> aryl);  $R_{20}$ ,  $R_{21}$  and  $R_{22}$  are independently selected from the group consisting of hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;  $R_{23}$  is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, heteroaryl or aryl.

126(55). (New) The composition of claim 113 wherein the at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one light absorbing monomer selected from the group consisting of methine, arylidene, polymethine, azamethine, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxypyrroline and arylisindoline and having respectively the structures:

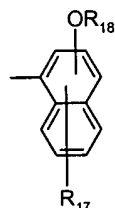
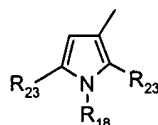
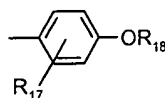
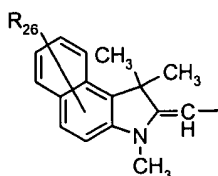
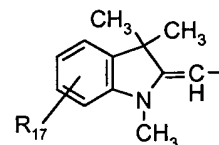
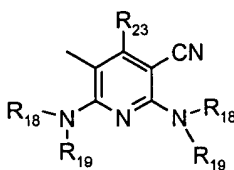
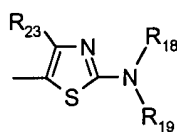
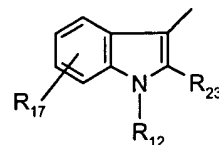
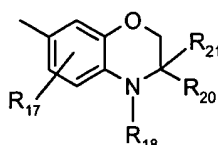
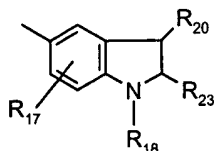
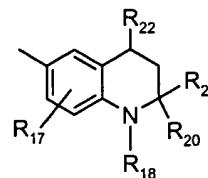
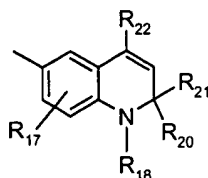
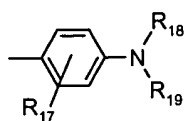


wherein  $R_{11}$  is the residue of an electron rich aromatic compound selected from the group consisting of an aniline, 1-naphthylamine, 1,2-dihydroquinoline, 1,2,3,4-tetrahydroquinoline, 1,3,3-trimethyl-2-methyleneindole, 1,3-dihydro-2-methylene- 1,1,3-trimethyl-2H-

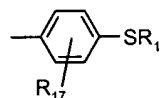
C<sup>2</sup>

benz[e]indole, imidazo [2,1-b] thiazole, benzomorpholine (3,4-dihydro-2H-1,4,benzoxazine), 2,3-dihydroindole, indole, 2-aminothiazole, julolidine (2,3,6,7-tetrahydro-1H, 5H- benz [ij] quinolizine, 1-oxajulolidine, 4H-pyrrolo [3,2,1-ij]-quinoline, phenol, naphthol, thiophenol, pyrrole, pyrazole, furan, thiophene, carbazole, phenothiazine or phenoxazine compound; R<sub>12</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> alkenyl, C<sub>3</sub>-C<sub>8</sub>-alkynyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>1-3</sub> R<sub>13</sub> and C<sub>1</sub>-C<sub>4</sub> alkylene- C<sub>3</sub>-C<sub>8</sub> cycloalkylene, wherein the C<sub>1</sub>-C<sub>6</sub> alkyl groups may be substituted by at least one group selected from the group consisting of carboxy, C<sub>1</sub>-C<sub>6</sub> carbalkoxy, C<sub>1</sub>-C<sub>6</sub> alkanoyloxy, cyano, hydroxy, chlorine, fluorine, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>8</sub> cycloalkyl or aryl; R<sub>13</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkoxy or C<sub>1</sub>-C<sub>6</sub> alkanoyloxy; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C<sub>1</sub>-C<sub>6</sub> alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C<sub>1</sub>-C<sub>6</sub> alkanoylacetonitriles, α-arylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-C(CH<sub>3</sub>)C=C(CN)<sub>2</sub>, with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

127. (New) The composition of claim 126 wherein R<sub>11</sub> is selected from the group consisting of the electron rich aromatic residues corresponding to the structures:

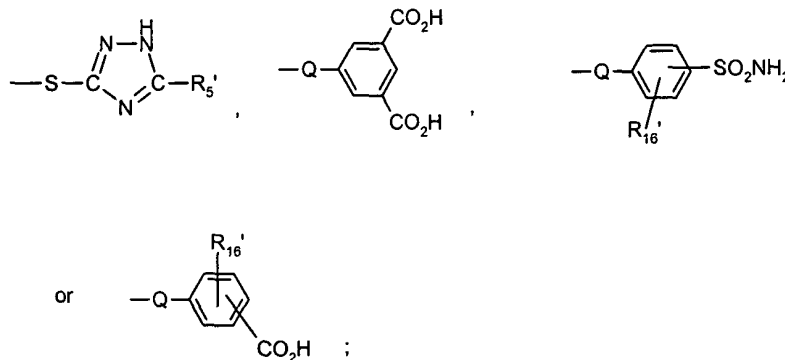


or

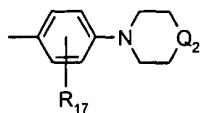


wherein  $R_{26}$  is selected from the group consisting of hydrogen or a group selected from the group consisting of  $C_1$ - $C_6$  alkoxy,  $CO_2H$ ,  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  alkoxy; wherein  $R_{17}$  is selected from the group consisting of hydrogen, and 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio,  $-O$   $C_2$ - $C_6$  alkylene- $OH$ ,  $O$   $C_2$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy,  $C_1$ - $C_6$  alkylene- $OH$ ,  $C_1$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy, halogen, carboxy,  $C_1$ - $C_6$  alkoxy, trifluoromethyl,  $NHCO_2R_{24}$ ,  $NHCO_2R_{24}$ ,  $NHCON(R_{24})R_{25}$ , and  $NHSO_2R_{25}$ , wherein  $R_{24}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl,  $R_{25}$  is selected from the group consisting of  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl wherein each  $C_1$ - $C_{10}$  alkyl group in  $R_{24}$  and  $R_{25}$  may be further substituted with one

or more groups selected from the group consisting of C<sub>3</sub>-C<sub>8</sub> cycloalkyl, aryl, aryloxy, arylthio, CO<sub>2</sub>H, CO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl,

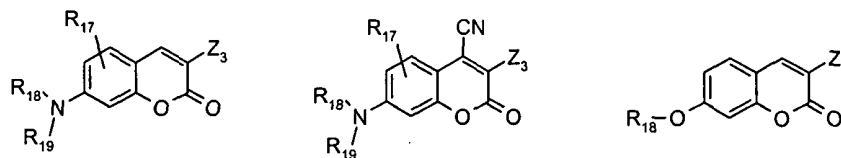


wherein R<sub>5</sub>' is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl or aryl; R<sub>16</sub>' is selected from the group consisting of hydrogen, one or two groups selected from C<sub>1</sub>-C<sub>6</sub> alkyl, halogen and C<sub>1</sub>-C<sub>6</sub> alkoxy; Q is selected from the group consisting of -O-, -N(COR<sub>10</sub>)-, -N(R<sub>10</sub>)-, -S-, -SO<sub>2</sub>-, -CO<sub>2</sub>-, CON(R<sub>10</sub>), SO<sub>2</sub>(R<sub>10</sub>)-, wherein R<sub>10</sub> is selected from the group consisting of hydrogen, aryl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl or C<sub>1</sub>-C<sub>10</sub> alkyl; R<sub>18</sub> and R<sub>19</sub> are independently selected from the group consisting of hydrogen, unsubstituted C<sub>1</sub>-C<sub>10</sub> alkyl, substituted C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, C<sub>3</sub>-C<sub>8</sub> alkenyl, C<sub>3</sub>-C<sub>8</sub> alkynyl and aryl or R<sub>18</sub> and R<sub>19</sub> may be combined with another element to which they are attached to form a radical Z having the formula

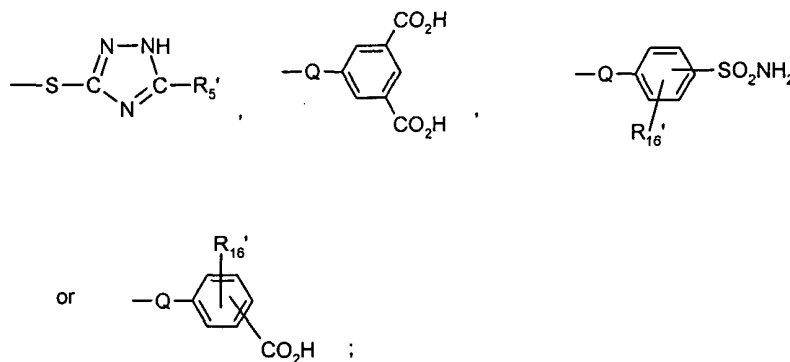


wherein Q<sub>2</sub> is selected from the group consisting of a covalent bond, -O-, -S-, -SO<sub>2</sub>-, -CO-, -CO<sub>2</sub>-, -N-(C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(CO C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(SO<sub>2</sub> C<sub>1</sub>-C<sub>6</sub> alkyl)-, -N(CO aryl)-, or -N(SO<sub>2</sub> aryl); R<sub>20</sub>, R<sub>21</sub> and R<sub>22</sub> are independently selected from the group consisting of hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl; R<sub>23</sub> is selected from the group consisting of hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>3</sub>-C<sub>8</sub> cycloalkyl, heteroaryl or aryl.

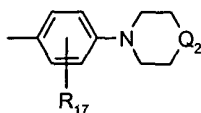
128. (New) The composition of claim 113 wherein the at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises a residue of at least one diacidic coumarin compounds selected from the group consisting of the structures



wherein  $Z_3$  is selected from the group consisting of cyano,  $C_1$ - $C_6$  alkoxy carbonyl,  $C_1$ - $C_6$  alkylsulfonyl, arylsulfonyl, aryl, heteroaryl, formyl, aroyl,  $C_1$ - $C_6$  alkanoyl or  $-CH=D$ , wherein  $R_{17}$  is selected from the group consisting of hydrogen, 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio,  $-O$   $C_2$ - $C_6$  alkylene-OH,  $O$   $C_2$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy,  $C_1$ - $C_6$  alkylene-OH,  $C_1$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy, halogen, carboxy,  $C_1$ - $C_6$  alkoxy carbonyl, trifluoromethyl,  $NHCO R_{24}$ ,  $NHCO_2 R_{24}$ ,  $NHCON(R_{24})R_{25}$ , and  $NHSO_2 R_{25}$ , wherein  $R_{24}$  is selected from the group consisting of hydrogen,  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl,  $R_{25}$  is selected from the group consisting of  $C_1$ - $C_{10}$  alkyl,  $C_3$ - $C_8$  cycloalkyl or aryl wherein each  $C_1$ - $C_{10}$  alkyl group in  $R_{24}$  and  $R_{25}$  may be further substituted with one or more groups selected from the group consisting of  $C_3$ - $C_8$  cycloalkyl, aryl, aryloxy, arylthio,  $CO_2H$ ,  $CO_2$   $C_1$ - $C_6$  alkyl, cyano, hydroxy, succinimido,  $C_1$ - $C_6$  alkoxy,

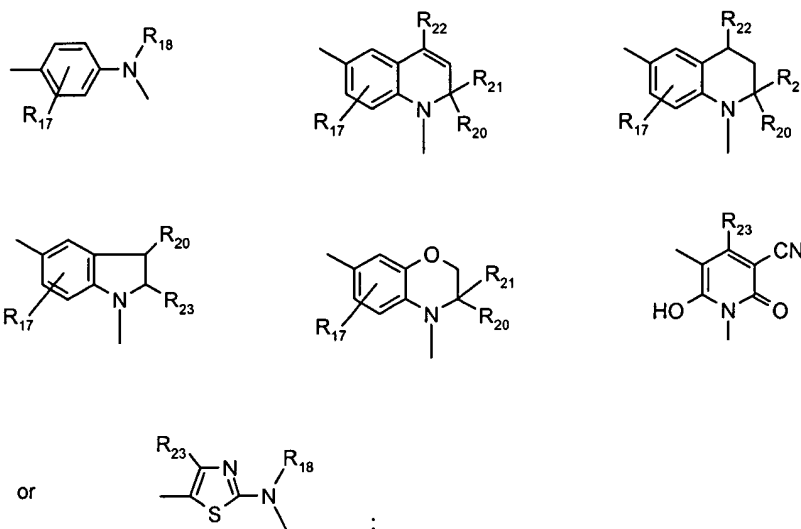


wherein  $R_5'$  is selected from the group consisting of hydrogen,  $C_1-C_6$  alkyl or aryl;  $R_{16}'$  is selected from hydrogen or one or two groups selected from  $C_1-C_6$  alkyl, halogen, and  $C_1-C_6$  alkoxy; Q is selected from the group consisting of  $-O-$ ,  $-N(COR_{10})-$ ,  $-N(R_{10})-$ ,  $-S-$ ,  $-SO_2-$ ,  $-CO_2-$ ,  $CON(R_{10})$ ,  $SO_2(R_{10})-$ , wherein  $R_{10}$  is selected from the group consisting of hydrogen, aryl,  $C_3-C_8$  cycloalkyl or  $C_1-C_{10}$  alkyl;  $R_{18}$  and  $R_{19}$  are independently selected from the group consisting of hydrogen, unsubstituted  $C_1-C_{10}$  alkyl, substituted  $C_1-C_{10}$  alkyl,  $C_3-C_8$  cycloalkyl,  $C_3-C_8$  alkenyl,  $C_3-C_8$  alkynyl and aryl or  $R_{18}$  and  $R_{19}$  may be combined with another element to which they are attached to form a radical Z having the formula



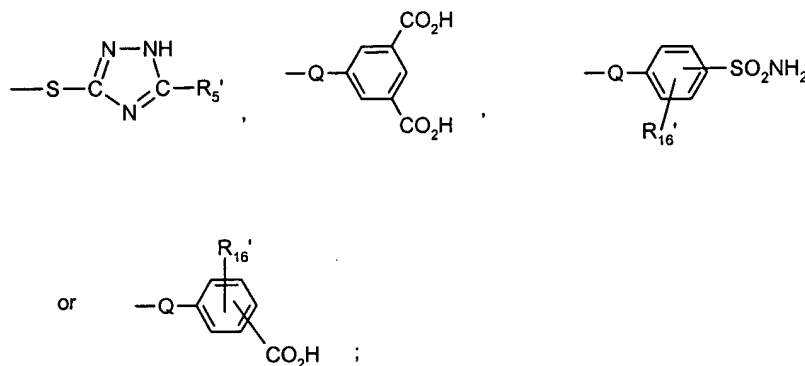
wherein  $Q_2$  is selected from the group consisting of a covalent bond,  $-O-$ ,  $-S-$ ,  $-SO_2-$ ,  $-CO-$ ,  $-CO_2-$ ,  $-N-(C_1-C_6 \text{ alkyl})-$ ,  $-N(CO \text{ } C_1-C_6 \text{ alkyl})-$ ,  $-N(SO_2 \text{ } C_1-C_6 \text{ alkyl})-$ ,  $-N(CO \text{ aryl})-$ , or  $-N(SO_2 \text{ aryl})$ ;  $R_{20}$ ,  $R_{21}$  and  $R_{22}$  are independently selected from the group consisting of or  $C_1-C_6$  alkyl;  $R_{23}$  is selected from the group consisting of hydrogen,  $C_1-C_6$  alkyl,  $C_3-C_8$  cycloalkyl, heteroaryl or aryl; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile,  $\alpha$ -cyanoacetic acid esters, malonic acid esters,  $\alpha$ -cyanacetic acid amides,  $\alpha$ - $C_1-C_6$  alkylsulfonylacetonitriles,  $\alpha$ -arylsulfonylacetonitriles,  $\alpha$ - $C_1-C_6$  alkanoylacetonitriles,  $\alpha$ -aroylacetonitriles,  $\alpha$ -heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl- $C(CH_3)C=C(CN)_2$ , with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

129. (New) The composition of claim 124 wherein at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one bis-azo light absorbing monomer wherein the bis coupling component  $Y_1$  is represented by the structure  $Z_1-L_1-Z_2$ , wherein  $Z_1$  and  $Z_2$  are independently selected from the group consisting of



wherein,  $L_1$  is bonded to the nitrogen atom of  $Z_1$  and  $Z_2$ ; wherein  $L_1$  is selected from the group consisting of  $C_2$ - $C_{12}$  alkylene,  $C_3$ - $C_8$  cycloalkylene, arylene,  $C_1$ - $C_4$  alkylene-  $C_3$ - $C_8$  cycloalkylene-  $C_1$ - $C_4$  alkylene,  $C_1$ - $C_4$  alkylene-arylene-  $C_1$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-O-arylene-O-  $C_2$ - $C_4$  alkylene,  $(C_2$ - $C_4$  alkylene O) $_{1-3}$   $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene- S-  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-SO $_2$ -  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-N(SO $_2$   $C_1$ - $C_6$  alkyl)-  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-N(SO $_2$  aryl)-  $C_2$ -  $C_4$ - alkylene,  $C_2$ - $C_4$  alkylene- OCO $_2$ -  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene- O $_2$ C-arylene-CO $_2$ -  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-O $_2$ C-  $C_1$ - $C_{12}$  alkylene-CO $_2$ -  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-O $_2$ C-  $C_3$ - $C_8$  cycloalkylene-CO $_2$ -  $C_2$ - $C_4$  alkylene,  $C_2$ - $C_4$  alkylene-NHCO-  $C_2$ - $C_4$  alkylene and  $C_2$ - $C_4$  alkylene-NHSO $_2$ -  $C_2$ - $C_4$  alkylene; wherein  $R_{17}$  is selected from the group consisting of hydrogen, 1-2 groups selected from  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy,  $C_1$ - $C_6$  alkylthio, -O  $C_2$ - $C_6$  alkylene-OH, O  $C_2$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy,  $C_1$ - $C_6$  alkylene-OH,  $C_1$ - $C_6$  alkylene-  $C_1$ - $C_6$  alkanoyloxy, halogen, carboxy,  $C_1$ - $C_6$  alkoxy carbonyl,

trifluoromethyl,  $\text{NHCOR}_{24}$ ,  $\text{NHCO}_2\text{R}_{24}$ ,  $\text{NHCON}(\text{R}_{24})\text{R}_{25}$ , and  $\text{NHSO}_2\text{R}_{25}$ , wherein  $\text{R}_{24}$  is selected from the group consisting of hydrogen,  $\text{C}_1\text{-C}_{10}$  alkyl,  $\text{C}_3\text{-C}_8$  cycloalkyl or aryl,  $\text{R}_{25}$  is selected from the group consisting of  $\text{C}_1\text{-C}_{10}$  alkyl,  $\text{C}_3\text{-C}_8$  cycloalkyl or aryl wherein each  $\text{C}_1\text{-C}_{10}$  alkyl group in  $\text{R}_{24}$  and  $\text{R}_{25}$  may be further substituted with one or more groups selected from the group consisting of  $\text{C}_3\text{-C}_8$  cycloalkyl, aryl, aryloxy, arylthio,  $\text{CO}_2\text{H}$ ,  $\text{CO}_2$   $\text{C}_1\text{-C}_6$  alkyl, cyano, hydroxy, succinimido,  $\text{C}_1\text{-C}_6$  alkoxy,



wherein  $\text{R}_{5'}$  is selected from the group consisting of hydrogen,  $\text{C}_1\text{-C}_6$  alkyl or aryl;  $\text{R}_{16'}$  is selected from hydrogen or one or two groups selected from  $\text{C}_1\text{-C}_6$  alkyl, halogen and  $\text{C}_1\text{-C}_6$  alkoxy; Q is selected from the group consisting of  $\text{---O---}$ ,  $\text{---N(COR}_{10}\text{)---}$ ,  $\text{---N(R}_{10}\text{)---}$ ,  $\text{---S---}$ ,  $\text{---SO}_2\text{---}$ ,  $\text{---CO}_2\text{---}$ ,  $\text{CON(R}_{10}\text{)}$ ,  $\text{SO}_2(\text{R}_{10})\text{---}$ , wherein  $\text{R}_{10}$  is selected from the group consisting of hydrogen, aryl,  $\text{C}_3\text{-C}_8$  cycloalkyl or  $\text{C}_1\text{-C}_{10}$  alkyl;  $\text{R}_{18}$  is selected from the group consisting of hydrogen, unsubstituted  $\text{C}_1\text{-C}_{10}$  alkyl, substituted  $\text{C}_1\text{-C}_{10}$  alkyl,  $\text{C}_3\text{-C}_8$  cycloalkyl,  $\text{C}_3\text{-C}_8$  alkenyl,  $\text{C}_3\text{-C}_8$  alkynyl and aryl;  $\text{R}_{20}$ ,  $\text{R}_{21}$ ,  $\text{R}_{22}$  are independently selected from the group consisting of or  $\text{C}_1\text{-C}_6$  alkyl;  $\text{R}_{23}$  is selected from the group consisting of hydrogen,  $\text{C}_1\text{-C}_6$  alkyl,  $\text{C}_3\text{-C}_8$  cycloalkyl, heteroaryl or aryl.